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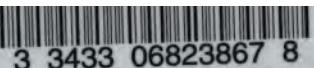
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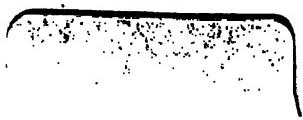
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Ideals of Science & Faith

ESSAYS BY VARIOUS AUTHORS

Edited by
THE REV. J. E. HAND
(*Editor of "Good Citizenship"*)

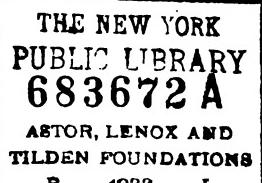
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PREFACE

FOR several centuries Religion and Science have been much at enmity—sometimes in open warfare, sometimes in covert hostilities. Round these two great interests social alliances, temporal and spiritual, have grouped themselves. Religion has received a wavering and intermittent support from Philosophy, and has enjoyed an alliance—bickering yet abiding—with the Governing Classes, Military, Political, and Juristic. Science has been in alliance—always unorganised and generally unconscious—with Industry; from the first with the Mechanical Crafts, and of late increasingly with the great vital activities of Agriculture, Health Maintenance, and Education.

A new grouping is now beginning to appear. That the feud between Religion and Science will wholly disappear is perhaps more than can be hoped for under present circumstances; but on all sides is a growing recognition that the ideals common to both Religion and Science are not only numerous, but are indeed the very ideals for which the nobler

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spirits on both sides care most. Hence it is that men of science and theologians alike evince an increasing desire for mutual toleration, sometimes even for some measure of co-operation, if not positive alliance. That is a position from which the deepest and most practical minds on both sides have never been far removed.

Thus at the present time not a few leaders of thought formerly ranged in opposing camps are beginning to forecast the possibilities of such new groupings, even to suggest co-operative campaigns on behalf of the ideals common to both the theological and scientific thought of to-day.

As a recent notable example of the approach toward religious problems from the side of physical science the Editor has to express his indebtedness for the permission to reprint SIR OLIVER LODGE'S papers in the *Hibbert Journal*. The HON. BERTRAND RUSSELL'S paper in this volume is reprinted by kind permission of the Editor of the *Independent Review*.

The further definition of the ideals of the sciences, their correspondence with those of faith, their application to life, are the questions which the Editor of this volume has proposed to the remaining writers, whom he has invited as representatives of different standpoints. Each writer, of course, remains exclu-

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sively responsible for his own contribution. Their answers complete the present volume of papers.

My warmest thanks are due to each writer. The compilation of this collection would never have been attempted without the concurrence and advice of my friends, Professor PATRICK GEDDES, Mr. VICTOR V. BRANFORD, and Rev. RONALD BAYNE.

J. E. HAND.

ST. MARY'S, BRYANSTON SQUARE,
LONDON, W.

March 7, 1904.

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INTRODUCTION

OF essays like the following, written from such widely different standpoints, and expressing the fullest independence of thought and treatment, the reader will not expect a summing-up of the essential thoughts, much less a positive conclusion. Our task is mainly to introduce, in the simple and social sense, independent writers, who have never before written together, and who will not in most cases, until this volume appears, see how they may have respectively treated their subject.

Under these circumstances both particular and general appreciation must be left to the reader. Yet the Editor may be allowed to amplify the general purpose of the volume, which distinguishes it from a mere group of magazine articles, beyond the scanty outline of the preface; he may make a somewhat fuller statement as befits one whose task has been to suggest a discussion, but who does not seek to close it.

His general point of view is in the first place retrospective; it is analytical, also, of the present situation; it is hopeful, too, as regards the future—though not professing to lift the veil.

The Mediaeval Church was the custodian of the knowledge of the times, as well as of its faith: that

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at its best it added new gold to the treasury, minted it, even circulated it, has once and again been generously recognised by the man of science; that at its worst it not only hid it in a napkin, but buried it, or sometimes even cast it away, is frankly avowed by the theologian. And since tragic incident impresses us even more than every-day well-being, history has preserved many instances of the repression of knowledge, many tales of the struggle for the emancipation of scientific thought from the limits imposed by the theology, or rather the theologians, of the times.

The story of how secular knowledge became gradually segregated off, is from both the theologian's and the scientist's point of view tragic enough; nor is it needful here to recall the increasing seriousness of opposition and of conflict, century after century. That much once called religion was prompted by good and bad motives, sometimes by preoccupation with the things of the spirit, by loyalty to historic predecessors, sometimes by timidity, bewilderment, jealousy, is confessed by the theologian, while the historian of science may also admit limitations to his heroes, as well as incompleteness in their thought.

For three centuries campaign has thus been succeeding campaign. The Cosmos is not geocentric; the earth is very old; man not only has a right but is bound to use his intelligence; geology does not square with Genesis; the history of things shows not a simultaneous creation of things as they stand, but

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a coming and becoming of them — evolution thus appearing contrasted with creation.

Man is very old, the historic period comparatively new; man seems a product of animal evolution; anthropology reveals that his social evolution also has been from hard struggle and humble conditions; it not only seeks to describe the rise of material civilisation, but even the evolution of religions. Criticism anthropological and criticism historical converge upon the sacred books, and treat them as natural developments too.

The observation of religious developments, from the common types of childhood, adolescence, maturity or age, to the rarest personalities of genius is beginning. There seems, in fact, no limit to the advance of science; while its more audacious devotees show now and then some tendency to ascend the tripod, and have even claimed in the name of science to erect new altars.

What mainly have been the tactics of the theologian, apart from mere recourse to Index or personal ban,—to action political rather than theological? Most commonly, of course, he has resisted this advance with dialectic might and main, and thus may claim to have been, if not welcome to the individual man of science, at least useful to his fellows or successors, as testing his assumptions and detecting crudities and incompleteness. This defence has had its distinguished sorties, though such sharp fighting seems to have ceased for a time. Often, too, the

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theologian has retired into his fastnesses, where the man of science could not follow him, but only stand outside and cry, "Mysticism — Metaphysics," or the like, with how much of relevancy we need not here investigate. What concerns us is that a few have made attempts towards mutual understanding.

Is the scientific man who boasts of victory in any of the above-named controversies quite generous to the theologian whom he calls defeated? And must he not recognise that even what may be defeat to one generation may be loyally accepted by the next, which may even incorporate the new order so fully as hardly to understand the difficulties of the old?

If we look beyond the militant scientists, each so commonly a specialist fighting for his own hand, and ignoring all else, we see that many men of science have felt more or less completely that the theologian has still his own problems, distinct from those of physical and natural science. Some prefer to ignore these problems, are mere Gallios; others keep absolute silence, even practically conceal the fact that questions assail them which their science cannot answer. Others, recognising the growing tendency of science to unity, have sought to formulate a scientific synthesis, and to find within its range scope for the feelings which have been hitherto met by the historic religions. Others again deny both the scientific and the theological synthesis. Seldom indeed do men of science and theology meet to think and talk these matters over. It is this atti-

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tude which gives its character to the present volume. It will be easy for the critic to point out insufficient unity of treatment; but that physicist and biologist, psychologist and educationalist, sociologist and moralist, who thus by themselves represent the main elements for scientific synthesis,—that active members, too, of great religious communions, should all here meet, is in itself a great advance towards unity; so that this small initial volume, without, of course, in any way claiming to be epoch-making in thought, may, none the less, be an epoch-marking one. The spirit enclosed in the covers of this book may become more consciously present in life and action. For when so many are not only faithfully seeking to see the thing as it is, but to make it what it should be, some progress towards the Kingdom of the Ideal is surely at hand.

Without claiming or expecting too much from our symposium, it is something to recognise that many of the older causes of friction have here disappeared, after eras of conflict and of compromise. Not only is the old bitterness absent from these pages, but better feeling has replaced it, with correspondingly modest and temperate expression, with logical care of terminology and method, and consequent absence of the old bickerings over what are, after all, mere side-issues; better still, we see no longer on either side the old misunderstanding of the distinctness of the respective aims of scientist and theologian. Now that Genesis is no longer defended as a geological

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primer, it is also no longer attacked as one. Later forms of the same confusion are also avoided, as, for instance, those which too long lingered in the discussions of organic or anthropological evolution and which are not yet extinct upon more recent planes. For it must not be forgotten that our current terminology was mainly evolved during this older state of things.

To remove these causes of friction is itself, then, a great step; but we need more even to approach a true Eirenikon. No doubt each statement of the larger issues of each science, of the larger standpoint of each of the Churches, makes notably for harmony, since each of us is thus helped to see the other at his best, and to consider his main position without reference to the accessories or details which may too easily disguise this.

This stage, therefore, we may claim the essays of our volume reach: indeed, rather, that this is their very starting-point. Narrow have been the limits of space necessarily imposed on each writer, yet they express much of the characteristic attitude and aims of the cultivators of the great fields of science, of the thoughtful adherents and exponents of great historic divisions of the religious world; the general impression from reading them will help us to realise what is the aim of science, and what is the aim of theology, indeed of religion.

Science is not merely observing the actual world of phenomena, but is organising an ever-increasing

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yet ever-unifying body of interpretative conceptual formulæ; and these have real and vital relations to life as a whole, knowledge leading to foresight, and foresight to more organised action, educational, social, moral, no less than physical, industrial, or hygienic. This the theologian not only generally admits but increasingly realises. He in turn may ask the man of science: may not theology in its turn become more intelligible to you as a system of transcendental formulæ, which has long practically helped to unify life, which does still thus help many, and which therefore, no doubt, in fuller and fuller correlation with the formulations of science, may thus aid again? Our thought has no doubt at times been fixed, and even arrested; but you yourselves have helped us to recognise that its past is one of evolution; well, what if it be now beginning to evolve again? Are you evolutionists if you deny us a future? On what grounds can you assume our mere disappearance? May not, must not our attitudes, scientific and theological, be in some way complementary rather than opposed?

In these pages we see the man of science stating anew the world-old problems of the religions, the religions, too, regarding their quondam assailant with sympathetic appreciation, not hostility. Has not the attitude of contemporary science been largely expressed by one of its most active workers in the notable saying that "science is now indeed conceived, but not yet born"? And is not the theo-

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logian, even he who attaches most significance to his historic concept of the Church, also admitting, or rather more and more fully realising, that the Church in its ideal and triumphant sense is but unborn?

A recent writer,¹ has insisted freshly on the need of clearer distinction, yet ever-renewing unity between the elemental *sense* of things from the standpoint of observational science, and their widest *significance*; that is, their fullest denotations and connotations, from the highest standpoint of our mental, moral, social, religious evolution. It is from the former elemental and inductive standpoint that the scientist finds his start-point and refuge, but from the latter the theologian. Yet at these two extremes neither can remain: each must progress to meet the other; each, too, must act in life, must organise action. Hence their "meaning," their intention may often clash, may often be divergent, perhaps still more often seem so. Yet is not the mutual translation of the many languages of the sciences, the common translation, too, of the many idioms of the different schools of theology, now becoming possible? And this even to plain and busy men? Must not all these complete one another,—nor any longer desire the exclusion of any? Let the religious become scientific, and the scientific religious; then there may be peace. But the only true peace is active peace, constructive peace. The elemental scientific thought and action are evidently, as these

¹ V. Welby, *What is Meaning?* Macmillan, 1902.

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pages show, not only growing inductively, but grasping deductively, feeling, idealising. And so conversely for the theologian's transcendental view. Since the man of science has learned and taught much of unsuspected unity amid the variety of Nature, so may not the theologian also learn more and more of unity amid the many aspects of the Ideal? and so even come to teach anew? And since this increasing knowledge of the phenomenal order has already yielded such new arts, transforming material life, and thence reacting both for good and evil upon the intellectual and moral life also, upon the social and the religious, may not, must not the transcendental idealist again not only reinterpret, but reorganise and reconstruct? As the science of each historic period has grown towards a synthesis, a philosophy, so the arts of each period have correspondingly gained their unification from religion, their highest expression in cult. What theologian, then, observing this vast modern development of arts and sciences, need fail to see in these the preparation of new resources, not only for the new Academy, the new Republic, but for the new Cathedral also; nor fear to see, upon that nobler Athens, towards which arts and sciences are converging, the descent of a yet nobler City of the Ideal, a New Jerusalem indeed?

APPROACHES THROUGH SCIENCE AND EDUCATION

A PHYSICIST'S APPROACH

SIR OLIVER LODGE, D.Sc., LL.D., F.R.S.

Principal of the University of Birmingham

THE OUTSTANDING CONTROVERSY

I

IT is widely recognised at the present day that the modern spirit of scientific inquiry has in the main exerted a wholesome influence upon Theology, clearing it of much encumbrance of doubtful doctrine, freeing it from slavery to the literal accuracy of historical records, and reducing the region of the miraculous or the incredible, with which it used to be almost conterminous, to a comparatively small area.

Benefit is likely to continue as true science advances, but it by no means follows that the nature of the benefit will always be that of a clearing and unloading process. There must always come a time when such a process has gone far enough, and when some positive contribution may be expected. Whether such a time has now arrived or not is clearly open to question, but I think it will be admitted that orthodox science at present, though it shows some sign of abstaining from virulent criticism, is still a long way from itself constituting any support of religious creeds;

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nor are its followers ready to admit that they have as yet gone too far, perhaps not even far enough, in the negative direction. No doubt it must be admitted by both sides that the highest Science and the truest Theology must ultimately be mutually consistent, and may be actually one; but that is far from the case at present.¹ The term "Theology," as ordinarily used, necessarily signifies nothing ultimate or divine; it signifies only the present state of human knowledge on theological subjects; and similarly the term "Science," if similarly employed, represents no fetish to be blindly worshipped as absolute truth, but merely the present state of human knowledge on subjects within its grasp, together with the practical consequences deducible from such knowledge in the opinion of the average scientific man: it means what may be called, briefly, orthodox science, the orthodox science of the present day, as set forth by its professed exponents, and as indicated by the general atmosphere or setting in which facts in every branch of knowledge are now regarded by cultivated men.

It may be objected that there is no definite body of doctrine which can be called orthodox science; and it is true that there is no formulated creed; but I suggest that there is more nearly an orthodox science than there is an orthodox theology. Professors of theology differ among themselves in a somewhat conspicuous manner; and even in the branch of it with which alone most Englishmen are familiar, viz., Christian Theology, there are differences of opinion on apparently important issues, as is evidenced by the existence of Sects, ranging from Uni-

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tarians on the one side, to Greek and Roman Catholics on the other. In science, sectarianism is less marked, controversies rage chiefly round matters of detail, and on all important issues its professors are agreed. This general consensus of opinion on the part of experts, a general consensus which the public are willing enough to acquiesce in, and adopt as far as they can understand, is what I mean by the term "science as now understood," or, for brevity, "modern science."

Similarly, by religious doctrine we shall mean the general consensus of theologians so far as they are in agreement, especially perhaps the general consensus of Christian theologians; eliminating as far as possible the presumably minor points on which they differ, and eliminating also everything manifestly below the level of dogma generally accepted at the present day.

Now it must, I think, be admitted that the modern scientific atmosphere, in spite of much that is wholesome and nutritious, exercises some sort of blighting influence upon religious ardour, and that the great saints or seers have as a rule not been eminent for their acquaintance with exact scientific knowledge, but, on the contrary, have felt a distrust and a dislike of that uncompromising quest for cold hard truth in which the leaders of science are engaged; and on the other hand, that the leaders of science have shown an aloofness from, if not a hostility for, the theoretical aspects of religion. In fact, it may be held that the general drift or atmosphere of modern science is adverse to the highest religious emotion, because hostile to many of the doctrines and beliefs upon

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which such an exalted state of feeling must be based, if it is to be anything more than a wave of transient enthusiasm.

Nevertheless, we must admit that there have been men of science, there must be many now living, who accept fully the facts and implications of science, who accept also the creeds of the Church, and who do not keep the two sets of ideas in water-tight compartments of their minds, but do distinctly perceive a reconciling and fusing element.

If we proceed to ask what is this reconciling element, we find that it is neither science nor theology, but that it is philosophy, or else it is poetry. By aid of philosophy, or by aid of poetry, a great deal can be accomplished. Mind and matter may be then no longer two, but one; this material universe may then become the living garment of God; gross matter may be regarded as a mere inference, a mode of apprehending an idealistic cosmic reality, in which we live and move and have our being; the whole of existence can become infused and suffused with immanent Deity.

No reconciliation would then be necessary between the spiritual and the material, between the laws of Nature and the will of God, because the two would be but aspects of one all-comprehensive pantheistic entity.

All this may possibly be in some sort true, but it is not science as now understood. It is no more science than are the creeds of the Churches. It is a guess, an intuition, — an inspiration perhaps, — but it is not a link in a chain of assured and reasoned

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knowledge ; it can no more be clearly formulated in words, or clearly apprehended in thought, than can any of the high and lofty conceptions of religion. It is, in fact, far more akin to religion than to science. It is no solution of the knotty entanglement, but a soaring above it; it is a reconciliation *in excelsis*.

Minds which can habitually rise to it are, *ipso facto*, essentially religious, and are exercising their religious functions ; they have flown off the dull earth of exact knowledge into an atmosphere of faith.

But if this flight be possible, especially if it be ever possible to minds engaged in a daily round of scientific teaching and investigation, how can it be said that the atmosphere of modern science and the atmosphere of religious faith are incompatible? Wherein lies the incompatibility?

My reply briefly is — and this is the kernel of what I have to say — that orthodox modern science shows us a self-contained and self-sufficient universe, not in touch with anything beyond or above itself, — the general trend and outline of it known ; — nothing supernatural or miraculous, no intervention of beings other than ourselves, being conceived possible.

While religion, on the other hand, requires us constantly and consciously to be in touch, even affectionately in touch, with a power, a mind, a being or beings, entirely out of our sphere, entirely beyond our scientific ken ; the universe contemplated by religion is by no means self-contained or self-sufficient, it is dependent for its origin and maintenance, as we for our daily bread and future hopes, upon the power and the goodwill of a being or beings of which science has no

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knowledge. Science does not indeed always or consistently deny the existence of such transcendent beings, nor does it make any effectual attempt to limit their potential powers, but it definitely disbelieves in their exerting any actual influence on the progress of events, or in their producing or modifying the simplest physical phenomenon.

For instance, it is now considered unscientific to pray for rain, and Professor Tyndall went so far as to say:—

"The principle [of the conservation of energy] teaches us that the Italian wind, gliding over the crest of the Matterhorn, is as firmly ruled as the earth in its orbital revolution round the sun; and that the fall of its vapour into clouds is exactly as much a matter of necessity as the return of the seasons. The dispersion, therefore, of the slightest mist by the special volition of the Eternal, would be as much a miracle as the rolling of the Rhone over the Grimsel precipices, down the valley of Hasli to Meyringen and Brientz. . . .

"Without the disturbance of a natural law, quite as serious as the stoppage of an eclipse, or the rolling of the river Niagara up the Falls, no act of humiliation, individual or national, could call one shower from heaven, or deflect towards us a single beam of the sun."¹

Certain objections may be made to this statement of Professor Tyndall's, even from the strictly scientific point of view: the law of the conservation of energy

¹ From "Fragments of Science," *Prayer and Natural Law*.

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is needlessly dragged in when it has nothing really to do with it. We ourselves, for instance, though we have no power, nor hint of any power, to override the conservation of energy, are yet readily able, by a simple physical experiment, or by an engineering operation, to deflect a ray of light, or to dissipate a mist, or divert a wind, or pump water uphill; and further objections may be made to the form of the statement, notably to the word "therefore" as used to connect propositions entirely different in their terms. But the meaning is quite plain nevertheless, and the assertion is that any act, however simple, if achieved by special volition of the Eternal, would be a miracle; and the implied dogma is that the special volition of the Eternal can, or at any rate does, accomplish nothing whatever in the physical world. And this dogma, although not really a deduction from any of the known principles of physical science, and possibly open to objection as a *petitio principii*, may nevertheless be taken as a somewhat exuberant statement of the generally accepted inductive teaching of orthodox science on the subject.

It ought, however, to be admitted at once by Natural Philosophers that the unscientific character of prayer for rain depends really not upon its conflict with any known physical law, since it need involve no greater interference with the order of nature than is implied in a request to a gardener to water the garden—it does not really depend upon the impossibility of causing rain to fall when otherwise it might not—but upon the disbelief of science in any power who can and will attend and act. To prove

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this, let us bethink ourselves that it is not an inconceivable possibility that at some future date mankind may acquire some control over the weather, and be able to influence it; not merely in an indirect manner, as at present they can affect climate, by felling forests or flooding deserts, but in some more direct fashion; in that case prayers for rain would begin again, only the petitions would be addressed, not to heaven, but to the Meteorological Office. We do not at present ask the secretary of that government department to improve our seasons, simply because we do not think that he knows how; if we thought he did, we should have no hesitation, on the score of his possible non-existence, or a doubt lest our letter should never reach him. Professor Tyndall's dogma, will, if pressed, be found to embody one of these last alternatives, although superficially it pretends to make the somewhat grotesque suggestion that the alteration requested is so complicated and involved, that really, with the best intentions in the world, the Deity does not know how to do it.

No doubt the line of piety might be taken, that the central Office knew best what it was about, and that petitions were only worrying; but that would be rather a supine and fatalistic attitude if we were in real distress, and certainly, on a higher level, it would be a very unfilial one. Religious people have been told, on what they generally take to be good authority, that prayer might be a miraculously powerful engine for achievement, even in the physical world, if they would only believe with sufficient vigour; but (I am not here questioning the sound-

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ness of their position) they have dramatised or spiritualised away the statement, and act upon it no more. Influenced it is to be presumed by science, they have come definitely to disbelieve in physical interference of any kind whatever on the part of another order of beings, whether more exalted or more depraved than ourselves, although such beings are frequently mentioned in their sacred books.

Whatever they might be able to do if they chose, for all practical purposes such beings are to the average scientific man purely imaginary, and he feels sure that we can never have experiential knowledge of them or their powers. In his view the universe lies before us for investigation, and we perceive that it is complete without them; it is subject to our own partial control if we are willing patiently to learn how to exercise it, but to no other control does it make any pretence of obedience. Even in the most vital concerns of life, it is the doctor, not the priest, who is summoned: a pestilence is no longer attributed to divine jealousy, nor would the threshing-floor of Araunah be used to stay it.

Nor is the terminology of the two subjects commensurate. The death of an archbishop can be stated scientifically in terms not very different from those appropriate to the stoppage of a clock, or the extinction of a fire; but the religious formula for the same event is that it has pleased God in His infinite wisdom to take to Himself the soul of our dear brother, etc. The very words of such a statement are to modern science unmeaning. (In saying this, I trust to be understood as not now in the slightest

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degree attempting to judge the question which form is the more appropriate.)

Religion may, in fact, be called supernatural or superscientific, if the term "natural" be limited to that region of which we now believe that we have any direct scientific knowledge.

In disposition also they are opposite. Science aims at a vigorous adult, intelligent, serpent-like wisdom, and active interference with the course of nature; religion aims at a meek, receptive, child-hearted attitude of dovelike resignation to the Divine will.

Take a scientific man who is not something more than a scientific man, one who is not a poet, or a philosopher, or a saint, and place him in the atmosphere habitual to the churches,—and he must starve. He requires solid food, and he finds himself in air. He requires something to touch and define and know; but there everything is ethereal, indefinable, illimitable, incomprehensible, beautiful, and vague. He dies of inanition.

Take a religious man, who has not a multitude of other aptitudes overlaid upon his religion, into the cold dry workings, the gropings and tunnellings of science, where everything must be scrutinised and proved, distinctly conceived and precisely formulated,—and he cannot breathe. He requires air and free space, whereas he finds himself underground, among foundations and masonry, very solid and substantial, but very cabined and confined. He dies of asphyxia.

If a man be able to live in both regions, to be amphibious as it were, able to take short flights

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occasionally, and able to burrow underground occasionally, accepting the solid work of science and believing its truth, realising the aerial structures of religion, and perceiving their beauty, will such a man be as happily and powerfully and freely at home in the air as if he had no earth adhering to his wings? Is the modern man as happily and powerfully and freely religious as he might have been with less information? Or, I would add parenthetically, as he may yet perhaps again be with more?

II

LEAVING the general, and coming to details, let us look at a few of the simpler religious doctrines, such as are still, I suppose, popularly held in this country.

The creed of the ancient Israelites was well, or at least strikingly, summarised by Mr. Huxley in one of his *Nineteenth Century* articles (March 1886). He there says: "The chief articles of the theological creed of the old Israelites, which are made known to us by the direct evidence of the ancient records, . . . are as remarkable for that which they contain as for that which is absent from them. They reveal a firm conviction that, when death takes place, a something termed a soul, or spirit, leaves the body and continues to exist in Sheol for a period of indefinite duration, even though there is no proof of any belief in absolute immortality; that such spirits can return to earth to possess and inspire the living; that they are in appearance and in disposition likenesses of the men

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to whom they belonged, but that, as spirits, they have larger powers and are freer from physical limitations ; that they thus form one of a number of kinds of spiritual existence known as Elohim, of whom Jahveh, the national God of Israel, is one ; that, consistently with this view, Jahveh was conceived as a sort of spirit, human in aspect and in sense, and with many human passions, but with immensely greater intelligence and power than any other Elohim, whether human or divine."

The mere calm statement of so preposterous a creed is plainly held by Mr. Huxley to be a sufficient refutation.

But we need not limit ourselves to the Old Testament, where doubtless some supposed facts may be abandoned without detriment, as belonging to the legendary or the obscure ; we may be constrained by science to go further, and to admit that even fundamental Christian doctrines, such as the Incarnation or non-natural birth, and the Resurrection or non-natural disappearance of the body from the tomb, have, from the scientific point of view, no reasonable likelihood or possibility whatever. It may be, and often has been, asserted that they appear as childish fancies, appropriate to the infancy of civilisation and a pre-scientific credulous age ; readily intelligible to the historian and student of folk-lore, but not otherwise interesting. The same has been said of every variety of miracle, and not merely of such dogmas as the fall of man from an original state of perfection, of the comparatively recent extirpation of the human race down to a single family, and so on.

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The whole historical record, wherever it exceeds the commonplace, every act attributed directly to the Deity, whether it be sending fire from heaven, or writing upon stone, or leadings by cloud and fire, or conversations, whether during trance or otherwise, is utterly contrary to the spirit of modern science (let it be clearly remembered how I have defined the phrase "modern science" above); and when considered prosaically, much of the record is summarily discredited, even I think by many theologians now. Nor is this acquiescence in negation confined to the leaders. The general religious world has agreed apparently to throw overboard Jonah and the whale, Joshua and the sun, the three Children and the fiery furnace; it does not seem to take anything in the book of Judges or the book of Daniel very seriously; and though it still clings pathetically to the book of Genesis, it is willing to relegate to poetry, *i.e.* to imagination or fiction, such legends as the creation of the world, Adam and his rib, Eve and the apple, Noah and his ark, language and the tower of Babel, Elijah and the chariot of fire, and many others. The stock reconciling phrase, with regard to the legend of a six-days' creation, or the Leviticus mistakes in Natural History, after the strained "day-period" mode of interpretation had been exploded in "Essays and Reviews," used to be, that the Bible was never meant to teach science; and so, whenever it touches upon any branch of natural knowledge, it is to be interpreted in a friendly spirit, *i.e.* it is to be glossed over, and in point of fact disbelieved. But a book which deals with so prodigious a subject as the origin of all things, and the history

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of the human race, cannot avoid a treatment of natural facts which is really a teaching of science, whether such teaching is *meant* or not; and indeed the whole idea involved in the word "meant" is repugnant to the conceptions of modern science, which has ousted teleology from its arena.

Moreover, if religious people go as far as this, where are they to stop? What, then, do they propose to do with the turning of water into wine, the ejection of devils, the cursing of the fig-tree, the feeding of five thousand, the raising of Lazarus? Or, to go deeper still, what do they make of the scene at the Baptism, of the Transfiguration, of the signs at the Crucifixion, the appearances after Death, the Ascension into heaven? May it not be supposed that neither orthodox religion nor orthodox science has said its last word on these questions?

But it may be urged that even these are but details compared with the one transcendent doctrine of the existence of an omnipotent and omniscient benevolent personal God; the fundamental tenet of nearly all religions. But so far as science has anything to say on this subject, and it has not very much, its tendency is to throw mistrust, not upon the existence of Deity itself, but upon any adjectives applied to the Deity. "Infinite" and "eternal" may pass, and "omnipotent" and "omniscient" may reluctantly be permitted to go with them, — these infinite adjectives relieve the mind, without expressing more than is implicitly contained in the substantive God. But concerning "personal" and "benevolent" and other anthropomorphic adjectives, science is exceedingly

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dubious; nor is omnipotence itself very easily reconcilable with the actual condition of things as we now experience them. The present state of the world is very far short of perfection. Why are things still imperfect if controlled by a benevolent omnipotence? Why, indeed, does evil or pain at all exist? All very ancient puzzles these, but still alive; and the solution to them so far attempted by science lies in the word Evolution, a word in itself not readily applicable to the work of a God.

Taught by science, we learn that there has been no fall of man, there has been a rise. Through an ape-like ancestry, back through a tadpole and fishlike ancestry, away to the early beginnings of life, the origin of man is being traced by science. There was no specific creation of the world such as was conceived appropriate to a geocentric conception of the universe; the world is a condensation of primeval gas, a congeries of stones and meteors fallen together; still falling together, indeed, in a larger neighbouring mass (the Sun). By the energy of the still persistent falling together, the ether near us is kept constantly agitated, and to the energy of this ethereal agitation all the manifold activity of our planet is due. The whole system has evolved itself from mere moving matter in accordance with the law of gravitation, and there is no certain sign of either beginning or end. Solar systems can by collision or otherwise resolve themselves into nebulae, and nebulae left to themselves can condense into solar systems, — everywhere in the spaces around us we see a part of the process going on; the formation of solar systems from whirling

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nebulæ lies before our eyes, if not in the visible sky itself, yet in the magnified photographs taken of that sky. Even though the whole process of evolution is not completely understood as yet, does anyone doubt that it will become more thoroughly understood in time? and if they do doubt it, would they hope effectively to bolster up religion by such a doubt?

It is difficult to resist yielding to the bent and trend of "modern science," as well as to its proved conclusions. Its bent and trend may have been wrongly estimated by its present disciples: a large tract of knowledge may have been omitted from its ken, which when included will revolutionise some of their speculative opinions; but, however this may be, there can be no doubt about the tendency of orthodox science at the present time. It suggests to us that the Cosmos is self-explanatory, self-contained, and self-maintaining. From everlasting to everlasting the material universe rolls on, evolving worlds and disintegrating them, evolving vegetable beauty and destroying it, evolving intelligent animal life, developing that into a self-conscious human race, and then plunging it once more into annihilation.

"Thou makest thine appeal to me!
I bring to life, I bring to death,
The spirit does but mean the breath,
I know no more. . . ."

But at this point the theologian happily and eagerly interposes, with a crucial inquiry of science about this same bringing to life. Granted that the blaze of the sun accounts for winds and waves, and hail, and

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rain, and rivers, and all the myriad activities of the earth, does it account for life? Has it accounted for the life of the lowest animal, the tiniest plant, the simplest cell, hardly visible but self-moving, in the field of a microscope?

And science, in chagrin, has to confess that hitherto in this direction it has failed. It has not yet witnessed the origin of the smallest trace of life from dead matter: all life, so far as has been watched, proceeds from antecedent life. Given the life of a single cell, science would esteem itself competent ultimately to trace its evolution into all the myriad existences of plant and animal and man; but the origin of protoplasmic activity itself as yet eludes it. But will the Theologian triumph in the admission? will he therein detect at last the dam which shall stem the torrent of scepticism? will he base an argument for the direct action of the Deity in mundane affairs on that failure, and entrench himself behind that present incompetence of labouring men? If so, he takes his stand on what may prove a yielding foundation. The present powerlessness of science to explain or originate life is a convenient weapon wherewith to fell a pseudo-scientific antagonist who is dogmatising too loudly out of bounds; but it is not perfectly secure as a permanent support. In an early stage of civilisation it may have been supposed that flame only proceeded from antecedent flame, but the tinder-box and the lucifer-match were invented nevertheless. Theologians have probably learnt by this time that their central tenets should not depend, even partially, upon nescience, or upon negations of any kind, lest the placid progress of posi-

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tive knowledge should once more undermine their position, and another discovery have to be scouted with alarmed and violent anathemas.

Any year, or any century, the physical aspect of the nature of life may become more intelligible, and may perhaps resolve itself into an action of already known forces acting on the very complex molecule of protoplasm. Already in Germany have inorganic and artificial substances been found to crawl about on glass slides under the action of surface-tension or capillarity, with an appearance which is said to have deceived even a biologist into hastily pronouncing them living amoebæ. Life in its ultimate element and on its material side is such a simple thing, it is but a slight extension of known chemical and physical forces; the cell must be able to respond to stimuli, to assimilate outside materials, and to subdivide. I apprehend that there is not a biologist but believes (perhaps quite erroneously) that sooner or later the discovery will be made, and that a cell having all the essential functions of life will be constructed out of inorganic material. Seventy years ago organic chemistry was the chemistry of vital products, of compounds that could not be made artificially by man. Now there is no such chemistry; the name persists, but its meaning has changed.

It may be conceivably argued that after all *we* are alive, and that if we ever learn how to make animals or plants, they will take their origin from life, just as when we make new species by artificial selection we exercise a control over the forces of nature which in

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some small way may be akin to the methods of the divine control. And this may possibly be a theme capable of enlargement.

But meanwhile what do we mean by such a phrase as divine control? for, after all, the controversy between religion and science is not so much a controversy as to the being or not being of a God. Science might be willing to concede this as a vague and ineffective hypothesis, but there would still remain a question as to His mode of action, a controversy as to the method of the divine government of the world.

And this is the standing controversy, by no means really dead at the present day. Is the world controlled by a living Person, accessible to prayer, influenced by love, able and willing to foresee, to intervene, to guide, and wistfully to lead without compulsion spirits in some sort akin to Himself?

Or is the world a self-generated, self-controlling machine, complete and fully organised for movement, either up or down, for progress or degeneration, according to the chances of heredity and the influence of environment? Has the world, as it were, *secreted* or arrived at life and mind and consciousness by the play of natural forces acting on the complexities of highly developed molecular aggregates; at first life-cells, ultimately brain-cells; and these not the organ or instrument, but the very reality and essence of life and of mind?

If there be any other orders of conscious existence in the universe, as probably there are, are they also locked up on their several planets, without the power of communicating or helping or informing, and all

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working out their own destiny in permanent isolation? Everything in such a world would be not only apparently but really a definite sequence of cause and effect, just as it seems to us here; and prayer, to be effectual in such a world, must be not what theologians mean by prayer, but must be either simple meditation for acquiescence in the inevitable, or else a petition addressed to some other of the dwellers in our time and place, that they may be induced by benevolent acts to ease some of the burdens to which their petitioners are liable.

We thus return to our original thesis, that the root question or outstanding controversy between science and faith rests upon two distinct conceptions of the universe: — the one, that of a self-contained and self-sufficient universe, with no outlook into or links with anything beyond, uninfluenced by any life or mind except such as is connected with a visible and tangible material body; and the other conception, that of a universe lying open to all manner of spiritual influences, permeated through and through with a Divine spirit, guided and watched by living minds, acting through the medium of law indeed, but with intelligence and love behind the law: a universe by no means self-sufficient or self-contained, but with feelers at every pore groping into another supersensuous order of existence, where reign laws hitherto unimagined by science, but laws as real and as mighty as those by which the material universe is governed.

According to the one conception, faith is childish and prayer absurd; the only individual immortality

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lies in the memory of descendants; kind actions and cheerful acquiescence in fate are the highest religious attributes possible; and the future of the human race is determined by the law of gravitation and the circumstances of space.

According to the other conception, prayer may be mighty to the removal of mountains, and by faith we may feel ourselves citizens of an eternal and glorious cosmogony of mutual help and co-operation, advancing from lowly stages to even higher states of happy activity, world without end, and may catch in anticipation some glimpses of that "one far-off divine event to which the whole creation moves."

The whole controversy hinges, in one sense, on a practical pivot—the efficacy of prayer. Is prayer to hypothetical and supersensuous beings as senseless and useless as it is unscientific? or does prayer pierce through the husk and apparent covering of the sensuous universe, and reach something living, loving, and helpful beyond?

And in another sense the controversy turns upon a question of fact. Do we live in a universe permeated with life and mind: life and mind independent of matter and unlimited in individual duration? Or is life limited, in space to the surface of masses of matter, and in time to the duration of the material envelope essential to its manifestation?

The answer is given in one way by orthodox modern science, and in another way by Religion of all times; and until these opposite answers are made consistent, the reconciliation between Science and Faith is incomplete.

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THE RECONCILIATION

III

IT may or may not have been observed, by anyone who has read the earlier portions of this paper,—but in so far as it has been missed, the whole meaning of the paper has been misconceived,—that when speaking of the atmosphere or the conclusions, the doctrines or the tendency of “science,” I was careful always to explain that I meant orthodox or present-day science: meaning not the comprehensive grasp of a Newton, but science as now interpreted by its recognised official exponents, by the average Fellow of the Royal Society for instance; just as by “faith” I intended not the ecstatic insight aroused in a seer by some momentary revelation, but the ordinary workaday belief of the average enlightened theologian. And my thesis was that the attitudes of mind appropriate to these two classes were at present fundamentally diverse; that there was still an outstanding controversy, or ground for controversy, between science and faith, although active fighting has been suspended, and although all bitterness has passed from the conflict, let us hope never to return. But the diversity remains, and for the present it is better so, if it has not achieved its work. Eliminating the bitterness, the conflict has been useful, and it would be far from well even to attempt to bring it to a close prematurely. But yet there must be an end to it some time; reconciliation is bound to lie somewhere in the future; no two parts or aspects of the

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Universe can permanently and really be discordant. The only question is where the meeting-place may be; whether it is nearest to the orthodox faith or to the orthodox science of the present day. This question is the subject of the present or concluding portion of my article. Let me, greatly daring, presume to enter upon the inquiry into what is really true and essential in the opposing creeds, how much of each has its origin in over-hasty assumption or fancy, and how far the opposing views are merely a natural consequence of imperfect vision of opposite sides of the same veil.

First among the truths that will have to be accepted by both sides, we may take the reign of Law, sometimes called the Uniformity of Nature. The discovery of uniformity must be regarded as mainly the work of Science: it did not come by revelation. In moments of inspiration it was glimpsed,—“the same yesterday, to-day, and for ever,”—but the glimpse was only momentary, the Hebrew “atmosphere” was saturated with the mists of cataclysm, visible judgments, and conspicuous interferences. We used to be told that the Creator’s methods were adapted to the stage of His creatures, and varied from age to age: that it was really His actions, and not their mode of regarding them, that varied. The doctrine of uniformity first took root and grew in scientific soil.

At first sight this doctrine of uniformity excludes Divine control, excludes anything in the nature of personal will, of intention, of guidance, of adaptation, of management. The law of evolution proceeds still

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further in the same direction; it shows that things change and how they change, and it attempts to show why they change. The Darwinian form of it attempts to account for the origin of species by inevitable necessity, free from artificial selection or operations analogous to those of the breeder. Teleology has gone, and guidance and purpose appear to have gone with it.

At first sight, but at first sight only. So might a spectator, witnessing some great and perfect factory, with machines constantly weaving patterns, some beautiful, some ugly, conclude, or permit himself to dream at least, after some hours' watching, during which everything proceeded without a hitch, driven as it were by inexorable fate, that everything went of itself, controlled by cold dreary necessity. And if his inspection could be continued for weeks or years, and it still presented the same aspect, the dream would begin to seem to be true: the perfection of mechanism would weary the observer: his human weakness would long for something to go wrong, so that someone from an upper office might step down and set it right again. Humanity is accustomed to such interventions and breaks in a ceaseless sequence, and, when no such breaks and interventions occur, may conclude hastily that the scheme is self-originating, self-sustained, that it works to no ultimate and foreseen destiny.

So sometimes, looking at the east end of London, or many another only smaller city, has the feeling of despair seized men: they wonder what it can all mean. So, on the other hand, looking at the loom

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of nature, has the feeling, not of despair, but of what has been called atheism, one ingredient of atheism, arisen: atheism never fully realised, and wrongly so called; recently it has been called severe Theism indeed; for it is joyful sometimes, interested and placid always, exultant at the strange splendour of the spectacle which its intellect has laid bare to contemplation, satisfied with the perfection of the mechanism, content to be a part of the self-generated organism, and endeavouring to think that the feelings of duty, of earnest effort, and of faithful service, which conspicuously persist in spite of all discouragement, are on this view intelligible as well as instinctive, and sure that nothing less than unreeling, unfaltering, unswerving acquiescence is worthy of our dignity as man.

The law of evolution not only studies change and progress, it seeks to trace sequences back to antecedents: it strains after the origin of all things. But ultimate origins are inscrutable. Let us admit, as scientific men, that of real origin, even of the simplest thing, we know nothing; not even of a pebble. Sand is the debris of rocks, and fresh rocks can be formed of compacted sand; but this suggests infinity, not origin. Infinity is non-human and we shrink from it, yet what else can there be in space? And if in space, why not in time also? Much to be said here, perhaps, but let it pass. We must admit that science knows nothing of ultimate origins. Which first, the hen or the egg? is a trivial form of a very real puzzle. That the world, in the sense of this planet, this homely lump of matter we call the earth — that this had an

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origin, a history, a past, intelligible more or less, growingly intelligible to the eye of science, is true enough. The date when it was molten can be roughly estimated; the manner and mechanism of the birth of the moon has been guessed: the earth and moon then *originated* in one sense; before that they were part of a nebula, like the rest of the solar system; and some day the solar system may again be part of a nebula, by reason of collision with some at present tremendously distant mass. But all that is nothing to the Universe; nothing even to the visible universe. The collisions there take place every now and again before our eyes. The Universe is full of lumps of matter of every imaginable size: the history of a solar system may be written—its birth and also its death, separated may be by millions of millions of years; but what of that? It is but an episode, a moment in the eternal cosmogony, and the eye of history looks to what happened before the birth and after the death of any particular aggregate; just as a child may trace the origin and destruction of a soap bubble, the form of which is evanescent, the material of which is permanent.

While the soap bubble lived it was the scene of much beauty and of a kind of law and order impossible to the mere water and soap out of which it was made, and into which again it has collapsed. The history of the soap bubble can be written, but there is a before and an after. So it is with the solar system; so with any assigned collocation of matter in the universe. No point in space can be thought of “at which if a man stand it shall be impossible for

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him to cast a javelin into the beyond"; nor can any epoch be conceived in time at which the mind will not instantly and automatically inquire, "and what before," or "what after"?

Yet does the human mind pine for something finite: it longs for a beginning, even if it could dispense with an end. It has tried of late to imagine that the law of dissipation of energy was a heaven-sent message of the finite duration of the Universe, so that before everything was, it could seek a Great First Cause; and after everything had been, could take refuge once more in Him.

Seen more closely, these are childish notions. They would be no real help if they were true; they cannot be true, no more than any other fairy tale suitable for children.

In the dawn of civilisation, God walked in the garden in the cool of the day. Down to say the middle of the nineteenth century He brought things into existence by a creative *Fiat*, and looked on His work for a time with approbation; only to step down and destroy a good deal of it before many years had elapsed, and to patch it up and try to mend it from time to time.

All very human: the endless rumble of the machinery is distressing, perfection is intolerable. Still more intolerable is imperfection not attended to; the machinery groans, lacks oil, shows signs of wear, some of the fabrics it is weaving are hideous; why, why, does no one care? Surely the manager will step down and put one of the looms to rights, or scold a workman, or tell us what it is all for, and why

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he needs the woven fabric, *der Gottheit lebendiges Kleid*, before long.

We see that he does not now interfere, not even when things go very wrong; the "hands" are left to put things right as best they can, nothing mysterious ever happens now, it is all commonplace and semi-intelligible; we ourselves could easily throw a machine out of gear; we do, sometimes; we ourselves, if we are clever enough and patient enough, could even perform the far harder task of putting one right again; we could even suggest fresh patterns; we seem to be more than onlookers — as musicians and artists we can create — perhaps we are foremen; and if ideas occur to us, why should we not throw them into the common stock? There is no head manager at all, this thing has been always running; as the hands die off, others take their places; they have not been selected or appointed to the job; they are only here as the fittest of a large number which have not survived; even the looms seem to have a self-mending, self-regenerative power; and we ourselves, we are not looking at it or assisting in it for long. When we go, other brilliantly-endowed and inventive spectators or helpers will take our places. We understand the whole arrangement now; it is simpler than at first we thought.

Is it, then, so simple? Does the uniformity and the eternity and the self-sustainedness of it make it the easier to understand? Are we so sure that the guidance and control are not really continuous, instead of being, as we expected, intermittent? May we be not looking at the working of the Manager all

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the time, and at nothing else? Why should He step down and interfere with Himself?

That is the lesson science has to teach theology — to look for the action of the Deity, if at all, then always; not in the past alone, nor only in the future, but equally in the present. If His action is not visible now, it never will be, and never has been visible.

Shall we look for it in toy eruptions in the West Indies? As well look for it in the fall of a child's box of bricks! Shall we hope to see the Deity some day step out of Himself and display His might or His love or some other attribute? We can see Him now if we look; if we cannot see, it is only that our eyes are shut.

"Closer is He than breathing, nearer than hands or feet:" — poetry, yes — but also science; the real trend and meaning of Science, whether of orthodox "science" or not.

IV

THERE is nothing new in Pantheism: — indeed no! But there are different kinds of pantheism. That the All is a manifestation, a revelation of God, — that it is in a manner, a dim and ungraspable manner, in some sort God Himself, — may be readily granted; but what does the All include? It were a strange kind of All that included mountains and trees, the forces of nature, and the visible material universe only, and excluded the intelligence, the will, the emotions, the individuality or personality, of which

~~surely seen that this whole can be characterized by
attributes of some of its parts.~~

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we ourselves are immediately conscious. Shall we possess these things and God not possess them? That would be no pantheism at all. Any power, any love, of which we ourselves are conscious does thereby certainly exist; and so it must exist in highly intensified and nobler form in the totality of things, — unless we make the grotesque assumption that in all the infinite universe we denizens of planet Earth are the highest. Let no worthy human attribute be denied to the Deity. There are many errors, but there is one truth, in Anthropomorphism. Whatever worthy attribute belongs to man, be it personality or any other, its existence in the Universe is thereby admitted; we can deny it no more. ↴

The only conceivable way of denying personality, and effort, and failure, and renewed effort, and consciousness, and love, and hate too, for that matter, in the real *whole* of things, is to regard them as illusory, — physiological and purely material illusions in ourselves. Even so, they are in some sense *there*; they are not unreal, however they are to be accounted for. We must blink nothing; evolution is a truth, a strange and puzzling truth; “the whole creation groaneth and travaileth together”; and the most perfect of all the sons of men, the likest God this planet ever saw, He to whom many look for their idea of what God is, surely He taught us that suffering, and sacrifice, and wistful yearning for something not yet attainable were not to be regarded as human attributes alone.

Must we not admit the evil attributes also? In the Whole, yes; but one of our experiences is that

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there are grades of existence. We recognise that in ourselves the ape and tiger are dying out, that the germs of higher faculties have made their appearance; it is an intensification of the higher that we may infer in the more advanced grades of existence; intensification of the lower lies behind and beneath us.

The inference or deduction of some of the attributes of Deity, from that which we can recognise as "the likest God within the soul," is a legitimate deduction, if properly carried out; and it is in close correspondence with the methods of physical science. It has been said that from the properties of a drop of water the possibility of a Niagara or an Atlantic might be inferred by a man who had seen or heard of neither.¹ And it is true that by experiment on a small quantity of water a man with the brain of Newton and the mathematical power and knowledge of Sir G. G. Stokes could deduce by pure reasoning most if not all of the inorganic phenomena of an ocean; and that not vaguely but definitely; the existence of waves on its surface, the rate at which they would travel as dependent upon distance from crest to crest, their maximum height, their length as depending on depth of sea; the existence of ripples also, going at a different pace and following a different law; the breaking of waves upon a shore; the tides also; the ocean currents caused by inequalities of temperature, and many other properties which are realised in an actual ocean: — not as topographical realities indeed, but as necessary theoretical conse-

¹ Sir Conan Doyle, *A Study in Scarlet*.

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quences of the hypothetical existence of so great a mass of water. Reasoning from the small to the great is legitimate reasoning, notwithstanding that by increase of size phenomena wholly different and at first sight unexpected come into being. No one not a mathematician looking at a drop of water could infer the Atlantic billows or the tides: but they are all there in embryo, given gravitation; and yet not there in actuality in even the smallest degree. People sometimes think that increase of size is mere magnification, and introduces no new property. They are mistaken. Waves *could* not be on a drop, nor tides either, nor waterspouts, nor storms. The simple fact that the earth is *large* makes it retain an atmosphere; and the existence of an atmosphere enhances the importance of a globe beyond all comparison, and renders possible plant and animal life. The simple fact that the sun is *very large* makes it hot, *i. e.* enables it to generate heat, and so fits it to be the centre and source of energy to worlds of habitable activity.

To suppose that the deduction of divine attributes by intensification of our own attributes must necessarily result in a "magnified non-natural man" is to forget these facts of physical science. If the reasoning is bad, or the data insufficient, the result is worthless, but the method is legitimate, though far from easy; and it is hardly to be expected that the science of theology has yet had its Newton, or even its Copernicus.¹ At present it is safest to walk

¹ Theologians may differ from this estimate; and if so, I defer to their opinion. It is well known that the topics slightly glanced at in the first half of this section have been profoundly

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by faith and inspiration ; and it is the saint and prophet rather than the theologian whom humanity would prefer to trust.

V

Now let us go back to our groping inquiry — to the series of questions left unanswered in the latter portion of Part II. of this paper, and ask, what then of prayer, regarded scientifically ; of miracle, if we like to call it miracle ; of the region not only of emotion and intelligence, but of active work, guidance, and interference ? Are these, after all, so rigorously excluded by the reign of law ? Are not these also parts of its kingdom ? Shall law apply only to the inorganic and the non-living ? Shall it not rule the domain of life and of mind too ? Speaking or thinking of the Universe, we must exclude no part ;

“ All are but parts of one stupendous whole,
Whose body nature is, and God the soul ; ”

“ For as the reasonable soul and human flesh is one man ” —

glimpses of truth, poor distorted glimpses, even as this paper : what more can be expected of us ?

studied by them ; but the subject is so difficult that an outsider can hardly assume that as much progress has been made in Theology as in the physical sciences. Not so much progress has been made even in the biological sciences as in the more specifically physical. It is sometimes said that biology has had its Newton, but it is not so : Darwin was its Copernicus, and revolutionised ideas as the era of Copernicus did. Newton did not revolutionise ideas : his was a synthetic and deductive era.

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Let us take this question of *guidance*. We must see it in action now or never. Do we see it now? Orthodox theology vaguely assumes it; orthodox science sees it not at all. What is the truth? Is the blindness of science subjective or objective? Is the vision absent because there is nothing to see, or because we have shut our eyes, and have declined to contemplate a region of dim and misty fact?

Take the origin of species by the persistence of favourable variations, how is the appearance of those same favourable variations accounted for? Except by artificial selection, not at all. Given their appearance, their development by struggle and inheritance and survival can be explained; but that they arose spontaneously, by random change without purpose, is an assertion which cannot be made. Does anyone think that the skill of the beaver, the instinct of the bee, the genius of a man, arose by chance, and that its presence is accounted for by handing down and by survival? What struggle for existence will explain the advent of Beethoven? What pitiful necessity for earning a living as a dramatist will educe for us Shakespeare? These things are beyond science of the orthodox type; then let it be silent and deny nothing in the Universe till it has at least made an honest effort to grasp the whole.

Genius, however, science *has* made an effort not wholly to ignore; but take other human faculties — Premonition, Inspiration, Prevision, Telepathy — what is the meaning of these things? Orthodox science refuses to contemplate them, orthodox theology also looks at some of them askance. Many

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philosophers have relegated them to the region of the unconscious, or the subconscious, where dwell things of nothing worth. A few Psychologists are beginning to attend.

Men of religion can hold aloof or not as they please: probably they had better hold aloof until the scientific basis of these things has been rendered more secure. At present they are beyond the pale of science, but they are some of them inside the Universe of fact,—all of them, as I now begin to believe,—and their meaning must be extracted. So long as this region is ignored, dogmatic science should be silent. It has a right to its own adopted region, it has no right to be heard outside. It cannot see guidance, it cannot recognise the meaning of the whole trend of things, the constant leadings, the control, the help, the revelations, the beckonings, beyond our normal bodily and mental powers. No, for it will not look. What becomes of an intelligence which has left this earth? Whence comes the nascent intelligence which arrives? What is the meaning of our human personality and individuality? Did we spring into existence a few years ago? Do we cease to exist a few years hence? It does not know. It does not want to know.

Does theology seek enlightenment any more energetically? No; it is satisfied with its present information, which some people mistake for divine knowledge on these subjects. Divine knowledge is perhaps not obtained so easily.

At present, in the cosmic scheme we strangely draw the line at man. We know of every grade of

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life from the amœba upwards, with some slight missing link here and there,—and these led up to by plants, and perhaps, though doubtfully, by crystals,—but the series terminates with man. From man the scale of existence is supposed to step to God. Is it not somewhat sudden? The step in the other direction, from man to the amœba, is as nothing to it. Yet that is a wide gap; wide, but not infinite. Why this sudden jump from the altitude of man into infinity? Are there no intermediate states of existence?

Perhaps on other planets,—yes, bodily existence on other planets is probable, not necessarily on any planet of our solar system, but that is a trifle in the visible universe; it is as our little five-roomed house among all the dwellings of mankind. But why on other planets only? Why bodily existence only? Why think solely of those incarnate personalities from whom, by reason of bodily location, we are most isolated? Because we feel more akin to such, and we know of no others. A good answer so far, and a true. But do we wish to learn? Have we our minds open? A few men of science have adduced evidence of intelligence not wholly inaccessible and yet not familiarly accessible, intelligence perhaps a part of ourselves, perhaps a part of others, intelligence which seems closely connected with the region of genius, of telepathy, of clairvoyance, to which I have briefly referred.

Suppose for a moment that there were a God. Science has never really attempted to deny His existence. Conceive a scientific God. How would He

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work? Surely not by speech or by intermittent personal interference. He would be in, and among, and of, the whole scheme of things. The universe is governed by law; effect is connected with cause;¹ if a thing moves it is because something moves it;² effects are due and only due to agents. If there be guidance or control, it must be by agents that it is exerted. Then what in the scheme of things would be His agents?

Surely among such agents we must recognise ourselves: we can at least consider how we and other animals work. Watch the bird teaching its young to fly, the mother teaching a child to read, the statesman nursing the destiny of a new-born nation. Is there no guidance there?

What is the meaning of legislation and municipal government, and acts of reform, and all the struggle after better lives for ourselves and others?

Pure automatism, say some; an illusion of free will. Possibly; but even a dream is not an absolute nonentity; the effort, however it be expressed or accounted for, exists.

What is all the effort — regarded scientifically — but the action of the totality of things trying to improve itself, striving still to evolve something higher, holier, and happier out of an inchoate mass? There may be many other ways of regarding it, but this is one. Failures, mistakes, sins, — yes, they exist; evolution would be meaningless if perfection were already attained; but surely even now we see some progress,

¹ If this involves controversy, then sequent with antecedent.

² This I wish to maintain in spite of controversy.

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surely the effort of our saints is bearing fruit. This planet has laboured long and patiently for the advent of a human race, for millions of years it was the abode of strange beasts, and now recently it has become the abode of man. What but imperfection would you expect? May it not be suggested that conscious evil or vice looms rather large in our eyes, oppresses us with a somewhat exaggerated sense of its cosmic importance, because it is peculiarly characteristic of the *human* stage of development: the lower animals know little or nothing of it; they may indeed do things which in men would be vicious, but that is just what vice is—reversion to a lower type after perception of a higher. The consciousness of crime, the active pursuit of degradation, does not arise till something like human intelligence is reached; and only a little higher up it ceases again. It appears to be a stage rather rapidly passed through in the cosmic scheme. Greed, for instance, greed in the widest sense, accumulation for accumulation's sake: it is a human defect, and one responsible for much misery to-day; but it arose recently, and already it is felt to be below the standard of the race. A stage very little above present humanity, not at all above the higher grades of present humanity, and we shall be free from it again.

Let us be thankful we have got thus far, and struggle on a little further. It is our destiny, and whether here or elsewhere it will be accomplished.

We are God's agents, visible and tangible agents, and we can help; we ourselves can answer some kinds of prayer, so it be articulate; we ourselves can

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interfere with the course of inanimate nature, can make waste places habitable, and habitable places waste. Not by breaking laws do we ever influence nature—we cannot break a law of nature, it is not brittle, we only break ourselves if we try—but by obeying them. In accordance with law we have to act, but act we can and do, and through us acts the Deity.

And perhaps not alone through us. We are the highest bodily organisms on this material planet, and the material control of it belongs to us. It is subject to the laws of Physics and to the laws of our minds operating through our bodies. If there are other beings near us they do not trespass. It is our sphere, so far as Physics are concerned. If there are exceptions to this statement, stringent proof must be forthcoming.

Assertions are made that under certain strange conditions *physical* interference does occur; but there is always a person present in an unusual state when these things happen, and until we know more of the power of the unconscious human personality, it is simplest to assume that these physical acts are due, whether consciously or unconsciously, to that person.

But what about our mental acts? We can operate on each other's minds through our physical envelope, by speech and writing and in other ways, but we can do more: it appears that we can operate at a distance, by no apparent physical organ or medium; if by mechanism at all, then by mechanism at any rate unknown to us.

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If we are open to influence from each other by non-corporeal methods, may we not be open to influence from beings in another region or of another order? And if so, may we not be aided, inspired, guided, by a cloud of witnesses, — not witnesses only, but helpers, agents like ourselves of the immanent God?

How do we know that in the mental sphere these cannot answer prayer, as we in the physical? It is not a speculation only, it is a question for experience to decide. Are we conscious of guidance? do we feel that prayers are answered? that power to do, and to will, and to think is given us? Many there are who with devout thankfulness will say yes.

They attribute it to the Deity; so can we attribute everything to the Deity, from thunder and lightning down to daily bread; but is it direct action? Does He work without agents? That is what our feelings tell us, but it is difficult to discriminate; and fortunately it is not necessary; the whole is linked together,

“ Bound by gold chains about the feet of God,”

and through it all His energising Spirit runs. On any hypothesis it must be to the Lord that we pray — to the highest we know or can conceive; but the answer shall come in ways we do not know, and there must always be a far Higher than ever we can conceive.

Religious people seem to be losing some of their faith in prayer: they think it scientific not to pray in the sense of simple petition. They may be right: it

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may be the highest attitude never to ask for anything specific, only for acquiescence. If saints feel it so, they are doubtless right, but, so far as ordinary science has anything to say to the contrary, a more childlike attitude might turn out truer, more in accordance with the total scheme. Prayer for a fancied good that might really be an injury, would be foolish; prayer for breach of law would be not foolish only but profane; but who are we to dogmatise too positively concerning law? A martyr may have prayed that he should not feel the fire. Can it be doubted that, whether through what we call hypnotic suggestion or by some other name, the granting of it was at least possible? Prayer, we have been told, is a mighty engine of achievement, but we have ceased to believe it. Why should we be so incredulous? Even in medicine, for instance, it is not really absurd to suggest that drugs and no prayer may be almost as foolish as prayer and no drugs.¹ Mental and

¹ Diseases are like weeds; gardening is a bacteriological problem. Some bacteria are good and useful and necessary; they act in digestion, in manures, etc.; others are baleful and mean disease. The gardener, like the physician, has to cultivate the plants and eradicate the weeds. If he ignores the existence of weeds and says they are all plants, he speaks truth as a botanist, but is not a practical gardener. If he says "gardening is all effort on my part, and nothing comes from the sky, I will dig and I will water, I care not for casual rain or for sun," he errs foolishly on one side. If he says "the sun and the rain do everything, there is no need for my exertion," he errs on the other side, and errs more dangerously; because he *can* abstain from action, whereas he cannot exclude rain and sun, however much he presumes to ignore them: he ought to

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physical are interlocked. The crudities of "faith-healing" have a germ of truth, perhaps as much truth as can be claimed by those who condemn them. How do we know that each is not ignoring one side, that each is but half educated, each only adopting half measures? The whole truth may be completer and saner than the sectaries dream: more things may be

"wrought by prayer
Than this world dreams of."

We are not bodies alone, nor spirits alone, but both; our bodies isolate us, our spirits unite us: if I may venture on two lines, we are like

Floating lonely icebergs, our crests above the ocean,
With deeply submerged portions united by the sea.

The conscious part is knowing, the subconscious part is ignorant: yet the subconscious can achieve results the conscious can by no means either understand or perform. Witness the physical operations of "suggestion" and the occasional lucidity of trance.

Each one of us has a great region of the subconscious, to which we do not and need not attend; only let us not deny it, let us not cut ourselves off from its sustaining power: if we have instinct for worship, for prayer, for communion with saints or with Deity, let us trust that instinct, for there lies the true realm of religion. We may try to raise the

be a part of the agency at work. Sobriety and sanity consist in recognising all the operative causes — spiritual, mental, and material.

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subconscious region into the light of day, and study it with our intellect also; but let us not assume that our present conscious intelligence is already so well informed that its knowledge exhausts or determines or bounds¹ the region of the true and the possible.

VI

As to what is scientifically possible or impossible, anything not self-contradictory or inconsistent with other truth is *possible*. Speaking from our present scientific ignorance, and in spite of the extract from Professor Tyndall quoted in Part I. of this paper, this statement must be accepted as literally true, for all we know to the contrary. There may be reasons why certain things do not occur: our experience tells us that they do not, and we may judge that there is some reason why they do not; there may be an adaptation, an arrangement among the forces of nature — the forces of nature in their widest sense — which enchains them and screens us from their destructive action, after the same sort of fashion as the atmosphere screens the earth from the furious meteoric buffeting it would otherwise encounter on its portentous journey through ever new and untried depths of space.¹

We may indeed be well protected; we must, else we should not be here; but as to what is *possible* —

¹ The earth does not describe anything like a closed curve per annum; the sun advances rather more than ten miles per second, in what is practically a straight line.

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think of any lower creature, low enough in the scale of existence to ignore us, and to treat us, too, as among the forces of nature, and then let us bethink ourselves of how we may appear, not to God or to any infinite being, but to some personified influence high above us in the scale of existence. Consider a colony of ants, and conceive them conscious at their level; what know they of fate and of the future? Much what we know. They may think themselves governed by uniform law — uniform, that is, even to their understanding — the march of the seasons, the struggle for existence, the weight of the soil, the properties of matter as they encounter it — no more. For centuries they may have continued thus; when one day, quite unexpectedly, a shipwrecked sailor strolling round kicks their ant-hill over. To and fro they run, overwhelmed with the catastrophe. What shall hinder his crushing them with his heel? *Laborare est orare* in their case. Let him watch them and see, or fancy that he sees, in their movements the signs of industry, of system, of struggle against untoward circumstance; let him note the moving of eggs, the trying to save and to repair: — the act of destruction may by that means be averted.

Just as our earth is midway among the lumps of matter, neither small like a meteoric stone, nor gigantic like a sun, so may be the place we, the human race, occupy in the scale of existence. All our ordinary views are based on the notion that we are highest in the scale; upset that notion and anything is possible. Possible, but we have to ascertain the facts, not what might, but what does occur.

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Into the lives of the lower creatures caprice assuredly seems to enter; the treatment of a fly by a child is capricious, and may be regarded as puzzling to the fly. As we rise in the scale of existence we hope that things get better; we have experience that they do. It may be said that up to a point in the scale of life vice and caprice increase; that the lower organisms and the plant world know nothing of them, and that man has been most wicked of all; but they reach a maximum at a certain stage—a stage the best of the human race have already passed—and we need not postulate either vice or caprice in our far superiors. Men have thought themselves the sport of the gods before now, but let us hope they were mistaken. Such thoughts would lead to madness and despair. We do not know the laws which govern the interaction of different orders of intelligence, nor do we know how much may depend on our own attitude and conduct. It may be that prayer is an instrument which can control or influence higher agencies, and by its neglect we may be losing the use of a mighty engine to help on our lives and those of others.

The Universe is huge and awful every way, we might so easily be crushed by it; we need the help of every agency available, and if we had no helpers we should stand a poor chance. The loneliness of it when we leave the planet would be appalling; sometimes even here the loneliness is great.

What the "protecting atmosphere" for our disembodied souls may be, I know not. Some may liken the protection to the care of a man for a dog,

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of a woman for a child, of a far-seeing minister for a race of bewildered slaves; while others may dash aside the contemplation of all intermediaries and agencies, and feel themselves safe and enfolded in the protecting love of God Himself.

The region of Religion and the region of a completer Science are one.

OLIVER LODGE.

A BIOLOGICAL APPROACH

PROFESSOR J. ARTHUR THOMSON, M.A.

Natural History Department, University of Aberdeen

PROFESSOR PATRICK GEDDES

University Hall, Edinburgh

INTRODUCTORY

FOR half a century there has been more friction between Biology and Theology than between any other two expressions of Science and of Faith, and the reasons for this are fairly obvious. Biology deals with life,—its nature, continuance, and evolution,—including Human Life, and has come to conclusions some of which do not fit in well with the theological doctrines of the world and of man; biological discipline fosters certain habits of mind and a conception of the world which prompt recoil from various theological doctrines that touch the facts of life, or foreclose questions which these doctrines raise; biology, as a relatively young science, has often exhibited the self-confidence and intolerance associated with youth; and finally, not a few on both sides have rushed into the controversial lists without due acquaintance with the rules of intellectual tournament, as is illustrated when the biologist makes merry over Jonah's whale, or when the defender of the faith entitles his book, "God or Natural Selection."

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Although there has never been much love lost between Biology and Theology, we cannot say that there is any unanimity in the attitude which biologists have assumed, or assume, in regard to theological doctrines. Some are or have been aggressively hostile, such as Haeckel and Huxley; others assume or really feel a nonchalant indifference, having no use for theology; others affect a superficial acquiescence, either by keeping idea-tight compartments in their cerebral machinery, or by condescending to verbal devices. And there are others, who feel the opposition to be real and deep, but who try to effect friendly contact and mutual appreciation, of an emotional sort at least.

Similarly, theologians are far from unanimity in their attitude towards biology. There are those who invade the biological camp, discovering mistakes in Darwinism, incompleteness everywhere, and the amateurishness of the biologist when he tries to be a philosopher. Others affect or feel indifference, and are in their fastnesses quite unmoved by anything the biologist may have to say regarding heredity or man's place in nature. Others, more facile, express a superficial acquiescence and an indulgent tolerance: they have an elastic eclectic system, capable of ingesting all data vouched for by respectable authorities, or a legerdemain practice with verbal devices, or, like some of their scientific brethren, the art of keeping idea-tight compartments in their brains. And there are a few who try to understand what biologists are after, who endeavour to utilise biological data by subliming them *sub specie aeternitatis*, who

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even seek to re-adjust the theological interpretations of man and the world to new facts.

Controversy and friction must be regarded as often useful, but no one with a knowledge of the thrusts and parries between Biology and Theology since the publication of the "*Origin of Species*," (1859) will deny that much of the controversy has been needless waste of time and energy. Much of it is merely beating or heating the air; and there have been faults on both sides.

The biologist has been at fault—in combating doctrines and modes of interpretation which no intellectual combatant on the other side is concerned to defend; in exciting himself over minutiae which are but outworks of the citadel of faith, or historical vestiges of a plan of campaign now almost forgotten; in misunderstanding the aim of theology; and in failing to realise the need of religion to men as they are, or its value which is both historically and experimentally demonstrable.

The theologian also has been at fault, sometimes in keeping aloof from the order of facts which Biology represents, and affecting a detachment which is contrary to the genius of Christianity; sometimes in misunderstanding what the aim of science is; sometimes in carping at minutiae; and oftenest perhaps, in imagining that his transcendental formulæ can continue to be valid if they remain static.

What is most needed is self-criticism on both sides, and that the biologists and the theologians should meet as men of good-will to discuss their respective ideals and difficulties. This Eirenikon is intended as

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a contribution towards that mutual understanding and respect that makes for peace, and we have devoted the bulk of our essay to four or five biological problems, the provisional solutions of which tend to be at variance with theological doctrines.

I. ILLUSTRATION OF SOME BIOLOGICAL PROBLEMS, THE PROVISIONAL SOLUTIONS OF WHICH TEND TO BE AT VARIANCE WITH THEOLOGICAL DOCTRINES

A. Biological Analysis. Science is not any particular body of facts: it is essentially the expression of an intellectual attitude or mood in relation to any order of phenomena. The distinctive feature is in the method,—making sure of facts, classifying them, analysing them into their simplest adequate expression, observing their inter-relations, grouping them according to their likenesses of co-existence and sequence, and inventing descriptive formulæ which sum them up in terms of our perceptual experience.

Thus the biologist, who may be, in other moods, a poet, or a philosopher, or religious, seeks, as a biologist, to interpret scientifically the nature, continuance, and evolution of life. He becomes aware of certain facts (fractions of reality, no doubt) which interest him; he proceeds to make himself more intimately acquainted with these, that is, to make his sensory experience of them as full as possible; he seeks to arrange them in ordered series, to detect their inter-relations and likenesses of sequence, to reduce them to

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simpler terms, to find their common denominator; and he finally tries to sum them up in a general formula, which he often, unfortunately, calls a "law." But he does not delude himself by imagining that his "law" is an *explanation* of the facts which it formulates.

It follows then, that biological analysis is working, and must work in a direction the very opposite of that of theological interpretation. We work with William of Occam's razor (*entia non sunt multiplicanda præter necessitatem*); "entities" are more and more closely shorn off; "principles" of life and growth, of development and heredity, vanish; "vital force" reluctantly disappears; the "vegetable soul" has gone, and, for many cases, the "animal soul" has followed. We work towards a common denominator — "protoplasm," which if it appears simple to the easy-going, is certainly not simple to the expert.

The mediæval biologist was almost forced to be "spiritualistic," he had to assume "animal spirits" and "vital spirits," "principles of life," "vital forces," and "*vires formativæ*." Then came Harvey's demonstration of some main factors in the circulation of the blood, the first of a long series of attempts to express vital phenomena in terms of mechanism, — attempts which put an end to the reign of "spirits," though not to the intrusion of metaphysical principles. Each great step in physiological analysis, especially after the establishment of the doctrine of the conservation of energy, has been followed by enthusiastic adherence to the mechanical theory, and then, as surely, has followed a re-action to vitalistic views. Again and again the enthusiasm of discovery

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has led to a short-lived belief that the secret of the organism was about to be solved; but biologists have always come sooner or later to see that their presumed interpretations were in terms of things that themselves required to be interpreted, that the physico-chemical interpretation which dominated the mind for a time left residual phenomena unaccounted for, and that these residual phenomena were often quite essential.

We are confronted to-day, as in the days of Johannes Müller and Von Baer, with the opposed opinions of the mechanical and the vitalistic schools. On the one hand, there are those who say "that the further physiology advances, the more does it become possible to explain, on physical and chemical grounds, phenomena which have hitherto been regarded as associated with a special vital force; that it is only a question of time; that it will finally be shown that the whole process of life is only a more complicated form of motion regulated solely by the laws which govern inorganic nature." And it must be admitted that many chemical and physical processes have been detected and described in the internal economy of a living creature, and that results of great value have been obtained by theoretically abstracting some part of the body, such as heart or lungs, and treating it as a piece of mechanism, disregarding for the time being what is, however, essential,—its maintenance and growth, its control and determination as a member of the unity which we call organism.

It may seem strange to ask whether the progress of nineteenth century physiology has been signalised

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by the achievement of re-expressing any vital phenomenon in terms of physics and chemistry. But it is, to say the least, very doubtful that there has been any such success.

"To me," says Bunge, a physiologist of undeniable standing, "the history of physiology teaches the exact opposite. I think the more thoroughly and conscientiously we endeavour to study biological problems, the more are we convinced that even those processes which we have already regarded as explicable by chemical and physical laws, are in reality infinitely more complex, and at present defy any attempt at a mechanical explanation."

Dr. J. S. Haldane goes even further: "If we look back at the phenomena which are capable of being stated, or explained in physico-chemical terms, we see at once that there is nothing in them characteristic of life. . . . We are now far more definitely aware of the obstacles to any advance in this (physico-chemical) direction, and there is not the slightest indication that they will be removed, but rather that with further increase of knowledge, and more refined methods of physical and chemical investigation, they will only appear more and more difficult to surmount." This is the modern vitalist position.

We see, then, that while modern biology no longer postulates a "vital force," that is, a "hyper-mechanical" factor, a mystical power, a non-material agent, presiding over the activities of the body, it admits, through probably the majority of its experts, that the phenomena distinctive of life cannot at present be restated in the language of chemistry and physics. It

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may be asked, however, whether this is more than an *argumentum ad ignorantiam*. It is still morning on the dial of science, biological analysis is still in its youth, partial re-statements have been given of numerous functions, we know much in regard to the chemical aspects of metabolism, synthetic chemistry is still re-creating organic compounds from inorganic elements, and so on. May we not reasonably expect some day to attain to an understanding of the chemical secret of protoplasm, in regard to which theories already abound?

To this we can only answer, that at any given time we must take things as they are. Sufficient unto the day is the progress thereof. Moreover, if we could show that inorganic processes contain implicitly the potentiality of life, then our conception of what is often brutally called "dead matter" will have to be altered, that is all. Furthermore, as Karl Pearson says, "The problem of whether life is or is not a mechanism, is not a question of whether the same things, 'matter' and 'force' are or are not at the back of organic and inorganic phenomena,— of what is at the back of either class of sense-impressions we know absolutely nothing,— but of whether the conceptual shorthand of the physicist, this ideal world of ether, atom, and molecule, will or will not also suffice to describe the biologist's perceptions." Even if the physicist's formulæ should fit vital phenomena— which they do not seem to do— there would be no "explanation" forthcoming, for "mechanism does not explain anything!"

It may be said, however, from the theological side:

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All this is mock modesty on your part; as men of science, you admit that it is not at present possible to re-describe the ways of life by physico-chemical formulæ, yet at the bottom of your hearts you believe that the organism is nothing more than a wonderful, self-storing, self-repairing engine with the power of growing and multiplying, as even crystals and complex molecules may do; you say that you cannot at present get below your common denominator, to wit, the properties of protoplasm, if even you can always get so far in reducing the fractions of reality that you know, yet you *are* looking forward to some day reading the riddle of protoplasm, to seeing life, with Ostwald, for instance, as an intricate series of fermentations, or in some similar, to us equally fantastic way. After all, you are looking forward, more cautiously, perhaps, than before, but even more deliberately to shutting God out of His universe. To this we must simply answer, as before, that science is not concerned with theoretical maybe's of the future; that, not being philosophy, it does not seek to explain anything, merely to re-describe in conceptual formulæ; and that, if the worst came to the worst, so to speak, or the best to the best, and we did understand the secret of protoplasm, that would not, to use Ruskin's cruel summary, prove that there is no use for a God,—a summary which was an irrelevancy quite unworthy of his sagaciously analytic mind—but would only show that there is no such thing as *dead* matter. The same line of argument may be adopted in regard to the attempted analysis of psychical phenomena in

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terms of physical categories, or of personal experience in terms of sub-personal categories, but we leave this to the psychologist.

B. The Doctrine of Heredity. Difficulties of another sort, more practical than those in Section A, arise when we consider the modern biological doctrine of heredity. We can no longer think of Heredity as a Fate outside the organism, granting certain gifts and withholding others; we cannot biologically draw a distinction at the outset of a life between the heir and his inheritance, for they are identical. Inheritance is all that a living creature is or has to start with in virtue of the hereditary relation,—the relation of genetic continuity which binds an organism to its ancestry. Nurture, in the widest sense, may do much to modify a man's natural inheritance, or the expression of it as the man develops; but we have little warrant for believing that nurture can transmissibly change nature in such a way that the acquired gains or losses of parents are entailed on their offspring. Mental characteristics (including moral) are inherited, like physical characteristics. Like a complex mosaic, the whole of a man's nature is built up of contributions from parents and grandparents and other ancestors. The child is a chip of the old block,—the average of the stock from which he springs. A good nature may be half-hidden under acquired ugliness; a bad nature may be nurtured into self-control and repression; on either side there is great plasticity; but the real stuff is only changeable slowly by organic variation.

In a sense, of course, all this is an old story, but the modern note is that we cannot regard the inheri-

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tance as a legacy to a metaphysically abstracted heir; the inheritance *is* or constitutes the heir. Rightly or wrongly, it is not congruent with the biological position to suppose that at a certain point in development, the soul steps in to put its shoulders under the yoke of the inheritance. To make an antithesis between the inheritance and what a preacher quaintly called, "the ego behind the personality," seems impossible. Whatever we think the word "soul" to mean, it cannot be intruded into the unity of the heritage. It is implicit within it from the first, a slumbering potentiality, part and parcel of the inherited organisation. But if the individual is the product of his ancestry, a transient whirlpool in the stream of life, a mosaic of hereditary contributions from many forbears, a chip of the old block, a detachable pendant on the eternal bead-string of germ-cells, and altogether predetermined, who can praise him, who can blame him, this child of the ages? In what sense is he master of his fate or arbiter of his destiny? In what sense is he responsible, a free agent, this product whose yea and nay have been as rigorously predetermined as his stature?

What has the biologist to say? Little more than this, that, well-fated, or ill-fated, each living creature is born a new creature — an individuality. There is variation as well as continuity, and the mould is, so to speak, broken each time. The result may be a monster, a mediocrity, or a masterpiece, with the chances always in favour of mediocrity, but in any case, each new creature is a new creature. And in the case of man, this seems to imply a personality

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with a will of its own to this extent, that it may or may not use possibilities of nurture in a manner quite unpredictable. The radius of freedom of choice may be long or short, but there is some freedom, something unpredictable in the activity of each new child. It may deceive itself, happily or unhappily, as to the length of its tether, but some freedom is born with it just because it is something new. What this small or large measure of freedom may involve, depends mainly on the variety of stimuli which reach the organism during its development. In short, the fact of variability has to be set against that of continuity, and the plastic power of environment against the persisting power of natural inheritance.

What the theologian has to say may be best illustrated by a quotation from Prof. James Denny's recent work on "The Atonement and the Modern Mind." "All life is one, biologists argue. It rises from the same spring, it runs the same course, it comes to the same end. The life of man is rooted in nature, and that which beats in my veins is an inheritance from an immeasurable past. It is absurd to speak of my responsibility for it, or of my guilt because it manifests itself in me, as it inevitably does, in such and such forms. . . . How are we to appreciate this mode of thought? We must point out, I think, the consequence to which it leads. If a man denies that he is responsible for the nature which he has inherited,—denies responsibility for it, on the ground that it *is* inherited,—it is a fair question to ask him for what he *does* accept responsibility. When he has divested himself of the inherited nature, what

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is left? The real meaning of such disowning of responsibility is, that a man asserts that his life is a part of the physical phenomena of the universe, and nothing else; and he forgets, in the very act of making the assertion, that if it were true, it could not be so much as made. The merely physical is transcended in every such assertion; and the man who has transcended it, rooted though his life be in nature, and one with the life of the whole and of all the past, must take the responsibility of living that life out, on the high level of self-consciousness and morality which his very disclaimer involves."

C. The Evolution Theory. The general idea of evolution, which is fast becoming an organic element in all our thinking, is not in any way peculiar to biology, though it has been most worked with and best justified in this sphere. The general doctrine of organic evolution states that the plants and animals now around us are the results of natural (scientifically analysable) processes of growth and change, of sifting and singling, working throughout the ages, that the forms we see are the descendants of ancestors on the whole somewhat simpler, that these are descended from yet simpler forms, and so on backwards, till we lose our clue in the unknown—but doubtless momentous—vital events of pre-Cambrian ages, or, in other words, in the thick mist of life's beginnings. This theory has been slowly evolved, gaining content as research furnished fuller illustration, and gaining clearness as criticism forced it to keep in touch with facts. It has been slowly developed from the stage of suggestion to the stage of verification; from being an

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a priori anticipation, it has become an interpretation of nature; and from being a modal interpretation, it is advancing to the rank of a causal theory.

What does the theory of organic evolution imply? (1) It presupposes in some form or other an order of nature to start with,—for the more ambitious, a nebula or an earth without form and void, or for most of us some primitive protoplasts gliding in a quiet pool. It cannot evolve a cosmos out of hopeless chaos, or out of nothing. It must be granted a primeval germ, originating it does not know how. Thus to some extent it postulates a pre-established order of nature. (2) It reveals more and more fully a natural and necessary history, scientifically conceivable, without “supernatural” intrusions, *one* world evolving *of itself* in the same sense that a seed or an egg develops *of itself*. (3) It discloses what must on the whole be called an undeniable progress, from the apparently simple to the obviously complex, with increasing differentiation and integration, towards more and more perfect adaptiveness or fitness, more and more fulness of expression, greater and greater freedom from the grip of the environment, and ever completer unfolding or liberation of the psychical life.

There are many questions which the theologian may pertinently ask in regard to the evolution theory. (1) What of “the mist of life’s beginnings”? what of the vital order of nature? is it not simpler and franker to recognise the doctrine of creation to the extent of saying that God created the primitive protoplasts? To ask this of a man is reasonable, but not of a biologist as such, who has no scientific data

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bearing on the subject.¹ (2) Again, the theologian may ask the biologist if he thinks that his theory of evolution really gets rid of the teleological idea by showing, for instance, how the wonderful adaptations in which animal nature is so rich have historically come about. It was Romanes who said: "Wherever we tap organic nature, it seems to flow with purpose," and every naturalist will agree—if the word *seems* be underlined and if the word "purpose" be put in inverted commas. What we actually observe is *fitness*, and that fitness remains as real as before, when we have succeeded in showing how it came to be. In the end we are forced back to regarding effective adapting response to the order of nature as a primary quality of the primeval protoplasm; and even if *that* was selected out from stuffs which were non-adaptive, the primitive adaptability must simply come in a little further back. To show that the history of a thing affords an interpretation of its present fitness, which is what biology is continually doing, and to interpret phases of the history in the light of the finished product, is scientific teleology. "There is a wider teleology," Huxley wrote, "which is not touched by the doctrine of evolution, but is actually based upon the fundamental proposition of evolution." But what

¹ "It is very desirable," Huxley repeatedly said, "to remember that evolution is not an explanation of the cosmos, but merely a generalised statement of the method and results of that process. And, further, that, if there is any proof that the cosmic process was set agoing by any agent, then that agent will be the creator of it and of all its products, although supernatural intervention may remain strictly excluded from its further course."

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transcendental inference is to be drawn from the fact of fitness, what "the argument from design" really proves, is not for the biologist to say. (3) Another question, cognate to the last, is: Does the evolution-process as it now proceeds, and as it has proceeded through the unthinkable millions of years, whose graveyards are all we can know, reveal to the biologist any plot, any strategy? Is it true that through the ages an increasing purpose runs? or does the biologist imagine organic evolution as a concatenation of chance episodes, chapter after chapter of happy accidents? Our answer is that the evolution-process seems like a development-process, orderly and progressive; that there have been catastrophes, crises, "chance-hits" in the former, just as there are in the latter, but that on the whole the process reads like a story of growth, like the working out of a big idea. The evolution-theory has been libelled as an attempt to re-instate "the old Pagan goddess, Chance," but Huxley and Darwin cannot have failed to convince serious students that by "chance" and "fortuitous" events, they meant no more than events of whose causes they were ignorant. Nowadays, moreover, "chance" has been subjected to very careful study, and turns out to be one of the most orderly phenomena in the universe! (4) The theologian has also every right to say to the evolutionist: Your *modal* formula commends itself to you, and to us; evolution really seems to have been the method of the world's becoming; but tell us frankly how far you have got on in raising the modal formula to the rank of a causal theory? Supposing evolution

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be a fact, what of the factors in the process? There is variability supplying the raw materials of progress; there is modifiability directly affected by environmental influence; there is heredity conditioning transmission or non-transmission; there is the struggle for existence, the outcome of which is natural selection or discriminate elimination, and a survival of the relatively more fit; and, finally, there are all the forms of isolation which limit the range of mutual fertility. But are these factors proving themselves sufficient? Has not one of the leaders written an essay "On the unknown factor in evolution"?

The biologist's answer should indicate the bigness of the concepts,—variation, modification, selection, isolation,—and that we are far from having exhausted their scope; that the discovery of any new factor scientifically expressible will be welcomed; and that serious ætiology is not yet fifty years old. The formulæ work well, but there may be other formulæ; the evolution-theory is itself in process of evolution. But while there is much dispute and uncertainty as to the relative values of the various factors, the general fact of evolution becomes ever clearer. It may not be capable of rigid demonstration, like the conservation of energy, but we know of no fact contradictory to it, of no lock in which its master-key does not turn.

D. Biological Doctrine of Man. Biology reveals man as corporeally affiliated to a simian stock, as of great antiquity, as once much less perfect, and yet as the climax (as regards brains) of a long evolutionary process. We do not know *when* he emerged

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as such, but it is a moderate estimate to suggest half a million years ago. We do not know *whence* he emerged, but it seems just to reject any interpretation which denies his structural affiliation to some ape-like type. No one dreams of arguing that man is descended from any living form of ape; but at what point the human stock diverged from the simian remains quite obscure. Man has his structural peculiarities, of course, from his chin to his heel; but the great gap between man and other living creatures is in brain-development, in mental life,— in his language, reason, and morality, expressed at so many different levels along an inclined plane. Nor do we know *how* man arose; for in spite of acute suggestions as to the importance of the enlarged brain, the erect attitude, the use of the hands, the family life, the prolonged infancy, the formation of an external heritage, and so on, it must be admitted that the factors of the evolution of man partake largely of the nature of may-be's which have no permanent position in science. Thus it happens that while we do not know when, or whence, or how Man emerged, we yet regard him as a natural product of the evolutionary process, because the cumulative evidence is so strong against making him "the great exception." It is unthinkable that the evolution-process should break down at the finish.

It must be noted here that Darwin's magnanimous collaborateur, the Nestor among biologists, the doyen of Evolution-theory now that Spencer has gone, does not agree with his brethren in regarding Man as a natural product of evolution. Alfred Russel Wallace does not believe that the known factors are

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adequate to account for Man's higher qualities, for example, the artistic and moral faculties, and he concludes that these must have had another mode of origin, apart from the normal evolutionary process. They are things apart, for which "we can only find an adequate cause in the unseen universe of spirit." He says the same in regard to the origin of life and the emergence of consciousness; and of course no biologist knows how to solve these riddles, or can object to the veteran holding any view he pleases in regard to them. But when it comes to separating off certain qualities of man,—mathematical, musical, artistic, and moral,—and saying that these cannot be products of natural evolution, we must enter a respectful protest. It is giving up the problem prematurely, and without exhausting the scope of the known factors. It is an abandonment of the scientific position, and suggestive of a somewhat quaint dualism, to suppose that "spiritual influences" are ready at hand to help natural evolution over stiles of difficulty. It has to be remembered, however, that Wallace has had spiritualistic experiences which have convinced him that scientific analysis is leaving out an important set of factors.

The biological doctrine of man is still young and incipient, very indefinite still as to the when, whence, and how of his emergence; but the whole tendency of research is in favour of regarding him as part and parcel with the rest of creation. The value of a Shakespeare, a Newton, a Goethe is not lessened by the fact that each was once a simple child, and before that a minute corpuscle of living matter, and

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the same holds true in regard to man's evolution. He has no reason to be ashamed of his ancestry, and, in any case, it does not affect his value. But the difficulty is to reconcile the biological interpretation with the theological doctrine of man "made in the image of God," yet with that of "The Fall"; and here, then, we give place to the theologian. Let him restate these conceptions in our idiom by all means, if he can; let him at any rate explain them to us anew in that of his own times, and not simply repeat them in the phraseology of the past. We realise of course that this is what he aims at; but we do not yet know with any sufficient clearness what his modern re-statement may be.

E. Ethical Aspect of Organic Evolution. Very vital to our discussion is the question whether any judgment can be formed as to the ethical aspect of the general process of organic evolution, which lies before us as a sort of object-lesson in progress. If elimination in the struggle for existence be nature's sole formula of progress, how are we to think of this in relation to our own human development?

In regard to this question four positions are held. First, there are those who simply accept the conventional Darwinian view, and use it to justify a *laissez-faire* policy. Secondly, there is the position of those who, so to speak, give Nature up, who hear in her many voices no helpful word to man in his endeavour after better-being. Thus Professor James in his lecture "Is life worth living?" proclaims the bankruptcy of Natural Theology, and finds in Nature "no universe," but a "multiverse," all plasticity and

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indifference, a "harlot" and "mere weather." It is said that science is never more than a broken mirror which philosophy reunites; if so, we cannot but hope that the above conclusion, which is contrary to our whole view of the evolution-process, is not a good sample of philosophical mending. Thirdly, there is the view which Huxley stated in his well-known Romanes lecture, that ethical progress for man depends upon his combating the cosmic process, and rising above the struggle for existence. We must look for no moral support from the vast "gladiatorial show" of nature; we must rather set our face against hers, and try to reverse her methods.

Huxley said that well-doing has only as much natural sanction as ill-doing, for both are products of natural evolution. Just in the same way it may be said that disease has been evolved *pari passu* with vigorous health, and therefore has as much natural sanction. The facts, however, contradict this view; for Nature pronounces verdict on the diseased by eliminating them, in spite of all our efforts (sometimes perhaps anti-evolutionary) to save.

Huxley indicated that the thief and the murderer follow nature as much as the philanthropist. But we doubt this, since they pursue a course which often ends in their elimination. The bay-tree of the wicked may seem to be an evergreen, yet it does die down. There is little crime or anti-social conduct in the animal world; it is a contradiction in terms.

If we make a curve of the ascent of vertebrates, marking their positions according to the degree of brain-development (which is generally a reliable in-

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dex of individuation), we find that as the curve ascends the ordinates of marital affection, parental care, mutual aid, and gentler emotions generally, are on the whole heightened step by step. That organisms so endowed should survive in spite of the admitted egoistic competition that is rife, is nature's sanction. The earth is the abode of the strong, but it is also the home of the loving.

It appears, then, that an outlook on Nature's *regime* or strategy suggests to some merely a *laissez-faire* acquiescence—a trustful reliance on the effectiveness of the selection-process; to others that there is no guidance at all to be had from this "harlot" Nature, who happens to be our mother; to others that the secret of man's progress is to try to reverse Nature's strategy. But is there not room for an endeavour to diminish the self-confidence of the acquiescence, the pessimism of aloofness, the antinomy of suggested reversal, by a fresh appeal to Nature? We think there is. We cannot, however, enter here upon the long argument which is needed to do justice to this position; only an outline can be attempted.

From the time of Empedocles, who recognised two ultimate forces in nature, Love and Hate, down to Herbert Spencer, who has insisted on altruism as well as egoism in Nature, there have been attempts to see nature as a materialised ethical process; and our sympathies are with this endeavour. "From the dawn of life," Spencer said, "altruism has been no less essential than egoism." "Self-sacrifice is no less primordial than self-preservation." Similarly, the essays of Fiske, our own "Evolution of Sex," Drum-

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mond's "Ascent of Man," Coe's book on "Natural Selection," Kropotkin's essays on "Mutual Aid," have sought to emphasise what may be called in general terms the altruistic aspects of life.

The point is whether the conventional Darwinian appeal to Nature can claim completeness. Have we not been too readily content with projecting upon Nature the social theory of a competitive mechanical and military age? To many of us it seems that there was too much red in the picture which Darwin painted; yet it should be remembered that, at his best at least, he defined the struggle for existence, which he used "in a wide or metaphorical sense," in such wise as to include mutual dependence of organism upon organism, and the efforts made for the sake of the young. The trouble is that Darwin's caution has not always been maintained, and certainly not always imitated, and that his picture has been reproduced by cheap or coarser processes until it has, in the hands of some, lost both subtlety and truth, and become a harsh and ugly print of Nature as "a continuous Waterloo," "a dismal cockpit," a "vast gladiatorial show." This is not merely bad as a piece of unbalanced cosmogony; the worst of it is that, by a vicious circle, the libel projected upon Nature is brought back again to justify one set of human methods, the egoistic; to discredit others, the altruistic ones.

In correction of this it has been urged by the authors above-mentioned that organic progress depends on much more than a squabble round the platter, that the struggle for existence is far more

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than an internecine struggle at the margin of subsistence, that it includes all the multitudinous efforts of self and for others between the poles of hunger and love, all the endeavours of mate for mate, of parent for offspring, of kin for kin. Love and life are factors in progress as well as pain and death; the struggle for existence is often in part an endeavour after well-being made by socially-bound or kin-bound organisms in a social environment; the premium on teeth and claws, on beaks and talons, is not greater than that on the warm solicitude of the maternal heart or the patience of the brooding bird. That the altruism may be quite instinctive does not seem to us to affect the present issue. Species-regarding is species-regarding still, so far as the biologist is concerned. He cannot enter upon the casuistry of conscious motive.

It does not seem desirable to try to make out an undue dualism in Nature's process,—any opposition between the struggle for existence and the altruistic struggle. At its best, the formula, the "struggle for existence," includes all. Thus conceived with Darwin at his best, it is both competitive and non-competitive, conscious and unconscious, self-regarding and species-regarding, egoistic and altruistic. It occurs between the living and the not-living, between fellows, between foes, between the sexes, between the parts of an organism, between the germ-cells themselves, and even between the living particles that compose these cells. In other words, the struggle for existence is a convenient formula for a certain aspect of life, applicable whenever or wherever effectiveness of vital response is of critical moment.

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Thus, as we have elsewhere indicated in detail, we escape from the conception that progress depends primarily upon internecine struggle for existence,—that is, the subordination of the species to the individual; and we insist even more strongly upon that of the individual to the maintenance of the species, in sex, offspring, and society. Thus our ethical difficulty at length disappears, since the greater steps of advance in the organic world compel us to interpret the general scheme of evolution as primarily a materialised ethical process, underlying all appearance of a gladiatorial show. We have not to pit our little selves against the cosmic process, but to follow along those lines of the cosmic process which have made for the highest evolution. We see that it is possible to interpret the ideals of ethical progress — through love and sociality, co-operation and sacrifice, not as mere utopias contradicted by experience, but as the highest expressions of the central evolutionary process of the natural world. As evolutionary biologists we are thus practically with moralist and theologian, even with poet or sentimentalist if you will, against "the vulgar economist" of Ruskin, or the self-styled "practical politician" of to-day.

II. IDEALS OF BIOLOGY

WE have said enough to show that while no stretch of the imagination will enable us to say that the biologist and the theologian are at present seeing eye to eye, the divergence is needlessly exaggerated by forgetting the essential differences in their aims and

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methods, "faith" and "science" being expressions of quite distinct moods. There is no utility in *opposing* biological and theological formulæ, for they are incommensurables. The point is whether they can be unified in personal and social experience, held together in a synthesis which is more than biology and more than theology. This seems more possible than it once was, but there is no doubt that some serious difficulties remain which cannot be overcome without more mutual re-adjustment of opinions than seems at present feasible. It is idle to pretend that the biological doctrine of man squares well with its theological analogue, and the incongruities are not wholly due to the fact that science works with empirical, and faith with transcendental formulæ, but partly to a disagreement in regard to the facts of the case. As the facts are, of course, the same for both sides, if they could only be seen aright by both, there is no reason to doubt that the harmonising process already begun will continue to progress. At present, however, there are, we maintain, a number of conclusions on both sides which cannot be hurriedly abandoned, which cannot, however, be mutually accepted. There is no use crying "Peace, peace," when there is no peace; the solution must come about by growth, which will be promoted by an increased recognition of what is common in the ideals at least of the two outlooks. We propose, therefore, to devote the last section of this essay to a brief consideration of the ideals of biology.

(a) *Intellectual*. Like any other science, Biology has for one of its ideals to gain a clear, orderly, cor-

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related, and interpretable view of nature. It analyses and pulls things and systems of things to pieces, but only as a means to an end, in order sooner or later to put them together again unified in intelligence. Many a chaotic corner is acquiring a semblance of rational order, many a puzzling obscurity has been illumined, many unsuspected linkages, correlations, and affiliations have been discovered. The vision of the web of life becomes clearer year by year, and though the progress towards a coherent system of conceptual formulæ in which to express what we are discovering of its pattern seems asymptotic, it is real. The world of life, so bafflingly heterogeneous, is being revealed as a universe, not a mere multiverse; we are finding out the laws of the great kaleidoscope which we call animate nature; we are slowly discovering the strategy as well as the tactics of evolution; we are getting at the plot of the great drama. Everywhere, unities are being perceived,—the unity of vital organisation through all the varied styles of architecture in plant and animal, the unity of vital processes amid all the multifarious expressions of life, the unity of development, the unity of evolution. What the poet and the artist see instinctively, what the metaphysician and the theologian reach deductively, biology is striving to establish inductively,—the Unity of Nature. Truly, the ideal is very far from realisation, but every year sees some corner of the picture filled in. In a true sense, biology is thus approaching one aspect of the theologian's idea of God.

(b) *Emotional.* Though science is not in itself

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emotional, being supposed to be purely intellectual, its ideal has an emotional aspect, for accurate knowledge is incomplete without good feeling and right conduct. This world is not a stony sphinx, but a throbbing life, which to know is to love. It must be granted that the man of dominantly scientific mood goes on with his business of making the world translucent, not primarily that emotion may be thrilled by the glimmer of the indefinable light that shines through, but because of his inborn inquisitiveness, his repugnance to obscurities, his craving for an intellectual system in which phenomena are provisionally unified. But he cannot help feeling all the time that he is working at a picture which will not merely inform but gladden the eyes. In short, he agrees with the theologian that his "chief end" includes enjoying as well as knowing, as the Shorter Catechism puts it.

It may be granted, too, that science, like a child pulling a flower to bits, is apt—and biology is one of the worst of the offenders—to dissect more than it constructs, and to lose in its analysis the vision of unity and harmony which the artist has ever before his eyes. Perhaps, however, if the artist has patience, he would often find that science restores the unity with more significance and more beauty in it than it had before. As biology passes from the structural, the morphological point of view, to the functional, the physiological one, as it escapes from the static to the kinetic, as it returns from the formal to the vital, when it resumes both these contrasted aspects of organic unity in the study of development and evolu-

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tion, it condones its destructive analysis by showing that things are more wondrously, beautifully, intensely alive, than even Pan-zoism suspected. In this process of renewal, this return from formalism, as kindred papers in this volume point out, sociology has much to say, education yet more to do. The partial pursuit of certain paths may sometimes dull or even play false to healthy emotion, but the general result and ideal of biology is to deepen our wonder in the world, our love of beauty, our joy in living. The modern botanist is in a very real sense more aware of the Dryad in the tree than the Greek could be. Our point is that biology, by its revelation of the mystery, wonder, and beauty of life, its intricacy and subtlety, its history, its tragedy and comedy, approaches another aspect of the Idea of God.

(c) *Practical.* Although science is not in itself practical, any more than artistic or emotional, there is a practical note in its ideal. Knowledge for knowledge's sake is not a humanly satisfying motive, though the idea often fills the horizon for an hour, or a day, a year, or a life-time, according to the nature of the man. Comte's great aphorism, "Savoir pour prévoir, prévoir pour pourvoir," is, on the whole, a no less accurate appreciation of the ideal of biology as it is of that of the physical or the social sciences.

It must be remembered that man's first relations with Nature were doubtless predominantly practical, that not only many sciences have their roots in practical lore, but that fresh vigour still often comes to science by a tightening of its contact with the affairs of daily life. We need hardly instance such a signal

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example as Pasteur, for it has been more or less obvious through the whole of history that science is most progressive when it recognises — consciously or sub-consciously — that science is for life, not life for science. At the same time, we cannot even for a moment allow that a science, as a science, should ever submit to the practical man's judgment, almost necessarily short-sighted, which makes immediate utility the criterion of worthiness. Over and over again, it has been shown that lines of scientific research, apparently abstract and remote from human life, have been in their practical issue most momentous, even revolutionary. "Vulcan, the god of industry, wooed science in the form of Minerva, but the chaste goddess never married, although she conferred upon mankind nearly as many arts as Prometheus."

That biology is increasingly justifying itself by practical works, no one can question who knows its contributions in relation to health and disease, the supply of food and other necessaries, the utilisation of plants and animals, and so forth. Moreover, it affords an educational discipline, the practical value of which is only beginning to be appreciated; and it tends to remove obscurities which, if unilluminated, would at least impede, if not mislead, human progress along practical lines.

Most of all, however, would we emphasise the fact, that biology has, at least partially, formulated certain general conceptions of life and health, of growth and development, of order and progress,— centred in the evolving idea of Evolution,— which are not only attempts to see more clearly what is true, but

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which make for the ascent of man, the betterment of life.

This aspect of the biological ideal might be developed at length; but we venture to submit without further evidence our third proposition under this head, that biology in revealing possibilities of betterment, of saving, strengthening, regenerating men, again approaches another aspect of the Idea of God.

So far then, for the present, we may go with this attempted contribution towards a better understanding between theologian and evolutionist. Are we suggesting that biology, with all its approved place in positive synthesis, is less irreconcilably removed even from traditional theology than may have seemed? its return to the fold, of natural theology at least, less hopeless? Or perhaps rather that the development of the theologian, and of theology itself may be recognised as the continual endeavour to express and symbolise, for the individual and for the race, the mystery, the process, the ecstasy, the agony, the progress, and the ideals of Life? It is something if the controversy thus emerge anew, cleared of some past misunderstandings, and open for a discussion in which each seeks to take the other at his best. Their struggle may, indeed must, long continue, yet increasingly upon a higher plane, a rising wave, an ascending spiral — that of the Culture of Existence; and this as a process not of thought merely, be it of naturalist or symbolist, but of Action; one expressed therefore not merely in doctrine but in Life. Their initial contrast of mental attitudes, their divergences

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therefore of interpretation also, must correspondingly develop respective aspirations and policies of individual influence and of social guidance, yet these with less sectarian dispute, with more personal meditation, more promotion of the human weal. This great old controversy then, with its mutually exclusive formalists, we are thus beginning to see as a passing scene, a phase of a larger drama, of which each is but an awakening spectator, a stumbling actor,—that of the birth, the struggle, the death, yet the renewal and ascent of the Ideal in Evolution. Thus biological science must indeed become the handmaid of religion, as the theologian, again thinker and symbolist, can offer her the interpretation of Life.

J. ARTHUR THOMSON.
PATRICK GEDDES.

A PSYCHOLOGICAL APPROACH

PROFESSOR JOHN H. MUIRHEAD, M. A.

Professor of Philosophy, University of Birmingham

THE quarrel which Plato was the first to name between Poetry and Philosophy — between the claim to affinity with the world around us as with a larger self, and the attempt to verify in detail the foundations on which it rests — may be said to be the *cause célèbre* of man's intellectual history. It repeats itself under different forms in different ages, the intelligent jury who are the leaders of public opinion swaying now to this side and now to that as the verification has seemed more or less remote. In our own time it has assumed the form of a conflict between Religion and Science. During the eighteenth and the greater part of the nineteenth century, the evidence seemed to be gradually massing itself in favour not only of a verdict of "not proven," but of an interdict to all attempt at proof. Religion, like poetry, of which it is the finer spirit, has its roots in the felt affinity between our purposes and ideals and the general course of Nature, — the response of the real world to the deepest needs of the soul. At its highest, it is, as Professor James says, an "enthusiastic temper of espousal towards the universe;" at its lowest, it is the conviction that "all is not vanity

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in this universe, whatever the appearances may suggest." Throughout the whole scale it represents so many variations of the theme, that the standard of reality is to be sought for, not in the shadows of sense, but in the mind's demand for some satisfying totality of experience. But it was just this belief in the ultimate kinship between the soul's ideals and the reality of the world that the prevailing philosophy of the last two centuries with its bias towards mechanical connexion seemed bent on rendering untenable.

The mechanical explanation of the universe is not, of course, a modern discovery. The first sketch of the atomic theory, with its corollaries of the indestructibility of matter and energy, was already before the world in the fifth century B. C., and by the end of the era it had been developed into a system of materialism as complete as any that has since been seen. What is characteristic of the modern form of the doctrine is, on the one hand, the reinforcement it seems to have received from a brilliant period of progress in every field of research, and, on the other, the theory of agnosticism as to the ultimate nature of reality with which in its leading representatives it has been combined.

The first impulse towards the modern theory is traceable to Descartes. Descartes himself was a supporter of a spiritualistic conception of the world, but in two ways he opened the way to another interpretation of it. In agreement with Galileo, he laid the foundation of the modern view of motion as the all important reality of which matter is merely the vehicle. By teaching, further, that animals were auto-

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mata, he suggested a theory of conscious life that was bound, sooner or later, to be extended. If animals were machines, why not man? was a burning question in the middle of the eighteenth century.¹ But it was not till the restatement of the atomic theory by Boscovich, and its application to chemistry by Dalton, followed by the formulation and experimental proof of the law of the Conservation of Energy in the middle of the nineteenth century, that the theory began to assume its modern form. This result was hastened by the discoveries of Bernard and Ludwig in physiology, of Darwin and Wallace in biology, and finally by the claim put forward by Comte and Mill from the side of psychology and sociology, by Buckle from the side of history and statistics on behalf of a science of human life and mind based upon rigid natural necessity. In view of these advances of the positive spirit, it is not surprising to find the middle of the nineteenth century like the middle of the eighteenth century only far more deeply marked by a widespread feeling that the key to the world of phenomena in every field was contained in the one fundamental assumption of the existence of matter and energy. This feeling found expression in a host of materialistic works of which Büchner's *Force and Matter* is probably the best known.² In England, this idea may be said to have come to a head and received its most triumphant, if not its most carefully worded, statement in

¹ In 1748 La Mettrie published his book, the *Human Machine*.

² It is said to have run through sixteen editions in thirty years, and to have been translated into thirteen languages.

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Professor Tyndall's well-known address to the British Association in 1874. "Trace the line of life backwards, and see it approaching more and more to what we call the purely physical condition. We come at length to the protogenes of Haeckel. Can we pause here? We break a magnet and find two poles in each of its fragments. And when we can break no longer, we prolong the intellectual vision to the polar molecules. Believing, as I do, in the continuity of Nature, I cannot stop abruptly where our microscopes cease to be of use. Here the vision of the mind authoritatively supplements the vision of the eye. By an intellectual necessity I cross the boundary of the experimental evidence and discern in that Matter which we in our ignorance of its latent powers, and notwithstanding our professed reverence for its Creator, have hitherto covered with opprobrium, the promise and potency of all terrestrial Life."¹

In spite of the continuous scientific advance based upon the assumption of the unity of Nature and our ability to express the laws of material phenomena in one or two fundamental formulæ, which has taken place since this celebrated pronouncement was made, the present day has witnessed a remarkable reaction against the mechanical interpretation of the phenomena of life and mind, and the religious agnosticism associated with it. Among the leaders of science themselves the confident tone of a generation ago has given place to a distrust of all claims to finality on behalf of scientific conceptions, accompanied by

¹ Address 1874, p. 55, condensed.

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a renewed sympathy with ideas in their essence religious. And, speaking generally, it is not too much to say that religion in the wider sense of the word exercises a stronger hold on the mind of the civilised world to-day than it has done at any period since the Reformation.

While there can be little doubt as to the fact, there is less general agreement as to the cause of this surprising change. Probably, as in all complex movements, many influences have combined to produce it. With some who have lived through both of these phases, it is the outcome of practical experience, and the felt insufficiency of the formulæ of jubilant agnosticism with which they started in life. With others, perhaps, it is the result of the enlargement of the intellectual horizon which a general sense of the unlimited possibilities of human discovery, whether in the field of nature or of mind, has brought with it. Whatever may be the cause, the main question that concerns philosophy is of the justification of the present religious reaction. Is it possible to find any solid ground for the belief that somehow or other the path to a more spiritual view of the world, which a generation ago seemed to be rapidly closing, has once more been reopened? The object of this paper is to point to the fact that in the field of life in general, and of the human mind in particular, the progress of thought has tended to show that mechanical law is of strictly limited application, and that, so far as psychology is concerned, the evidence points to the open door.

I shall begin by stating more clearly than I have

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hitherto done what is to be understood by natural law. So long as natural law was conceived of vaguely as complete determination by antecedent conditions, and opposed to the free design of an artistic Creator, it is easy to understand the dominance it obtained. But the advance of science has meant not only the extension of the idea of physical causation to an ever-widening range of phenomena, but the deepening of the idea of what is meant by physical causation itself. Superficially, and as it is conceived of by popular thought, a cause stands for a thing operating upon another which is wholly independent of it. When one billiard ball strikes another, it is sufficient for ordinary purposes to say that it is the cause of the resulting motion. At a further stage of reflection, it is noted that the cause of an event is not a *thing* but a previous event or condition of things. And this, when more closely scanned, is seen to be resolvable into a number or system of such conditions. A cause, says Hobbes, is "the aggregate of all the accidents," and he is followed by Mill, when he defines a cause as "the sum of the conditions." By the time this stage has been reached, it has become obvious that one of the conditions is the reaction of that on which the cause is supposed to operate, and that the distinction between a cause and an effect, temporally divided from each other, except as phases of a single continuous process, is more or less arbitrary. At this level, the motions of the billiard balls is explained in terms of a system of forces in which any distinction between cause and effect tends to disappear. A

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further stage still is reached when the series of events represented by the cause and its effect is conceived of as the phenomenal aspect of a system of mutually acting and reacting particles in which alike the material substratum and the force or energy exerted by them is constant. What takes place in the billiard balls is a transference of energy in which the loss in the one is precisely equivalent to the gain in the other, and is expressible in a mathematical formula. While thus undergoing a process of refinement, it is doubtful whether our conception of mechanical causation ever wholly loses the traces of its more rudimentary forms, and whether these ought not rather to be regarded as elements which it contains, than as phases through which it has passed. So interpreted, it may be said to imply: (a) the determination of an event by an antecedent different from itself, (b) the continuity of the two events expressible as a transmission of energy, (c) the quantitative equivalence of the energies: "no energy is lost and the sum of energy is the same."

The materialistic theory of the universe assumes that the form of causation here described is the type to which each and every kind of phenomenon is ultimately reducible. It is true that before they can be taken as constituents of the universe, our billiard balls must be reduced by millions upon millions, and rebaptised first as atoms, then as electrons, perhaps by and by as something else. Further that their movements have to be conceived of as storable in the form of latent energy, as in the pendulum at the end of its swing, and again as transformable into molecular

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motion, as in heat or magnetism. But the underlying conception of quantitatively determinable masses, acting upon one another from without in definite, quantitatively determinable ways is the same as that described above. Returning therefore to our subject, the question before us is of the extent to which recent advances in the sciences, other than those commonly classed as physical, has been in the direction of the confirmation of the universal applicability of naturalistic explanation.

On this question, as it concerns such science as Chemistry and Biology, an outsider can hardly venture to have opinion. Yet he may note the obstacles to mechanical explanation that are patently acknowledged by experts themselves. The success of the atomic theory in chemistry forms a brilliant record, and seems to contain a reliable promise of the ultimate and not very distant triumph of the mechanical theory in this department. But before acknowledging the victory, we have to insist on the establishment of a clear continuity between what are understood as mechanical and chemical energies. In view of this requirement, laymen may be permitted to hesitate before the admission of experts that "deep-going changes take place at the entry of substances into chemical combination by reason of which the relation of the qualities of a compound to those of its constituent parts can never be quite perspicuous."

The difficulty already felt in chemistry increases as we pass to the phenomena of life. Recent observations of bacillie forms seem to show that the impulse under which they act is of quite a different order from

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that of purely physical agents. They are sensitive to stimuli from their environment, direct themselves to food, avoid obstacles, and in other ways exhibit behaviour bearing a much closer analogy to human purposes than to physical energies. It is not merely that no case has been established for the genesis of the living cell from lifeless matter. No stress need be laid on the breakdown of the case for abiogenesis. Even though the evidence were stronger than it is, it would still be possible to maintain that it pointed rather to the existence of an element of sensitivity in what we now call lifeless matter, than to the origin of the sensitive from the insensitive. The point to be emphasised is that the living cell, at all stages of its development, from the lowest to the highest organisms, exhibits phenomena for the explanation of which the conception of constancy of energy in a system of material or ethereal particles is coming more and more to be recognised as inadequate. There seem, indeed, to be already signs of a curious reversal of the current of speculation. Instead of insisting upon atoms and energy as the Bed of Procrustes into which all phenomena must be forced to fit, the physicist seems on the point of recognising an inner principle of adaptation even in material particles hitherto regarded as subject only to influences from without.¹

Passing from facts usually classified as physical to those which are acknowledged to be psychical, we may begin by recalling the general attitude of the

¹ In connexion with this, the investigations of physicists on the "fatigue" of metals is suggestive.

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earlier period. By some, the mind was frankly described as a "secretion" of the brain. Others sought to mitigate the harshness of such crude comparisons by assigning it a decorative function as an "epiphenomenon," standing to material process as the escape of steam or the flicker of light over a locomotive stands to the machinery,— a sign of real operations going on below, but without significance either as a cause or a guide of force and motion. But the general result was the same: mind was generally treated as an adjunct to the brain, either as another form, or as a function of molecular motion.

There is no more striking change in the attitude of science at the present day than the recognition of the confusion underlying all such metaphors, and of the futility of the attempt to establish any real continuity between brain processes and mental experience, or any real analogy between physical and mental causation.

1. With the disappearance of the idea of soul as a substance has gone the idea that its relation to the body can be at all adequately conceived of as that of one thing acting upon another. We experience things as substances external to one another: our own bodies, for instance, as outside the objects around them; but in what intelligible sense can we say that our "experience," which is the most general term for our mind, is outside of the things it apprehends? As well might we speak of the picture as outside the canvas, the form outside the marble. Of the things thus apprehended, the brain and its changes are a part: they only have meaning within

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an experience, and it is merely a psychological "bull" to speak of them as external to it.

A similar difficulty faces us from the side of the second of the aspects under which we viewed physical causation,—continuity between cause and effect. A physiological movement—a change in the disposition of the molecules of nerve and brain—may perhaps be said to be continuous with ethereal or atmospheric waves, but all trace of continuity seems to vanish when we pass from molecular movements to sensations of light and sound. We pass here from one world into another far more widely separated from it than is the most distant star in the deserts of space from our planet and the system to which it belongs. This has been admitted by the most consistent advocates of naturalism. "The passage," writes Tyndall, "from the physics of the brain to the corresponding facts of Consciousness is unthinkable." In spite of this admission, Tyndall, we have seen, believes in the ultimate reducibility of mental to atomic changes, and if the mere absence of intuitable continuity were the only difficulty in the way of assimilation, we might ignore it in view of what might be considered the overwhelming probability of the case. But other difficulties remain.

The third requirement in physical explanation is measurement. In physical science there is here no difficulty in principle. A standard unit is a familiar conception. In psychical intensities, feelings, sensations, efforts, the case is different. Here everything is fluid, everything relative. It is true that Fechner in the middle of last century conceived the hope of

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establishing a law of quantitative equivalence between the stimulus and the sensation, and the attempt has been persistently renewed from time to time. The controversy is surrounded with some technical difficulty, turning upon the question of the sense in which we can speak of quantity at all in relation to our feelings and sensations, but the balance of opinion among psychologists leans weightily to the side of abandoning as unmeaning the attempt to establish a quantitative relation between the physical and the mental, and of substituting the well-recognised law of relativity for anything which has the remotest affinity with physical causation and the conservation of energy.¹

So far, it may be admitted that the argument has, on the whole, been fatal to the application of the laws of mechanics, as we understand them in the physical sciences, to the phenomena of mind. But the "mechanical philosophers" of our own day are not likely to accept such demonstration as disposing of the question. Granting it to have been proved that psychology is no subtle annexe of physics and me-

¹ That mental states have a quantitative aspect is clear. We speak of an intenser sensation of light or colour, of one pleasure as greater than another. But when we seek to assign an exact meaning to these phrases, we are met with the insurmountable difficulty of discovering any unit of measurement corresponding to the units of extension or number. As we pass from a whitish pink to a deep red, in what sense can we be said to be experiencing more units of redness? Close analysis of such an experience seems to suggest, as Professor James expresses it, rather a sense of greater and greater distance from a limit than of more and more of the same sensation.

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chanics, it may still be asked whether any step has thereby been gained towards the proof that it is a science of the spiritual, in any sense that can be of service to religion. Our ideas are not determined by physical movements, but if they can be shown to be the effect of previous ideas in such wise that their course, and the course of the conduct which results from them, is fixed as inevitably and (as we shall perhaps by and by discover) as calculably as the distribution of energy at any moment in a material system is determined by the previous distribution, what, it may be asked, has been proved? what ground has been reclaimed from the reign of natural law that is worth referring to as a gain to religion?

2. The answer to this contention brings us to the second and, for the subject of this paper, the more important of the generally accepted results of recent psychology. Psychologists in general admit that the idea of a mechanics of the mind not only has had a great history in the past, but within clearly defined limits is a perfectly legitimate one. But the day has gone past when these limits could be ignored, and it could be claimed that our mental life can be "explained" by the laws of the association of ideas on the analogy of the physical sciences. No one has done more than Professor Münsterberg to develop a mechanics of the mind in the above sense, but no one has recognised more clearly or stated more powerfully the provisional and strictly limited application of such a psychology. After pointing out that mind is essentially will and purpose, Professor Münsterberg goes on to show that in this sense it is not a

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perceivable object and therefore neither a cause nor an effect. The psychology that treats it as such "may be and in this century indeed has been the last word of a naturalistic attitude towards the world. But it degenerates into an unphilosophical psychologism, just as natural science degenerates into materialism, if it does not understand that it works only from one side and that the other side is the primary reality." Opposed to this is a psychology which insists that "we ought to abandon exaggerated devotion to the physical world, that we ought to look out for our inner world. A good psychology is the most important supplement to those sciences which consider the inner life not as an existing describable, explainable object, but as a will system to be interpreted and to be appreciated. Psychology is an end as the last word of the naturalistic century which lies behind us; it may become a beginning as the introductory word of an idealistic century to be hoped for."¹

Fully to develop the thought that underlies this passage would lead us into a discussion of the modern doctrine of volition far beyond the limits of the present paper. The point at which this doctrine becomes of essential importance to our argument is the distinction which it establishes between physical processes, as a series of casually related events in time, and mental processes, at whatever stage of development we chose to take them, as the expression of the permanent systems of ideas and senti-

¹ *Psychology and Life*, by Hugo Münsterberg.

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ments which we call the self. My sitting before the piece of paper on which I write these words is in a sense the outcome of my past life. Certainly if I had no past, I should have no present. But it is in a far truer sense the result of the interest I take in the subject under discussion, and in the means of expressing it. Voluntary action has been described as determination by the future as contrasted with physical action, or determination by the past. But the point that requires to be emphasised is rather that time sequence is here irrelevant. In volition I am not, strictly speaking, determined by any event at all. I am not acted upon, but I act under the sense of the value of the object to a self "whose borders," as has been finely said, "are washed by time," but which, as a whole, reflecting itself in its actions as a picture does in its parts, or an organism in its members, stands in a quite definite sense above all time sequence. This is somewhat obscured by the use of the term "motive," which is commonly taken in the sense of something external to the will. Reflection shows that our motives ought not to be conceived of as forces acting on the mind from without, but as deriving their efficacy from the response they meet with from the organised structure of the will, which we call our character. As a man sees only what he comes prepared to see, and therefore may already be said to have seen, so he is moved only by what he is prepared to accept as his motive and may already be said in a sense to possess or to be.

The general result of the analysis, now generally

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accepted in psychology, that is here condensed is the vindication for the mind of a reality of its own, independent of the physical order. But if this were all, the reality thus claimed might still be held to be precarious, resting on our present ignorance of any method of co-ordinating the two worlds of mind and matter. At best, it might be said we have merely broken our world into two, assigning one part to the reign of natural law, the other to the freedom of choice. It leaves us with two worlds held apparently in some sort of equipoise, but with no discoverable centre of gravity,—no point from which their unity can be rendered intelligible. And if this be so, however justifiable the refusal to acquiesce in materialism, yet from the side of psychology at least, there seems no opening to the comprehensive view of the world resting on the priority of mind which we have seen to be the presupposition of religion. But the clue which psychological analysis places in our hand does not leave us here. It leads to a further step that is of fundamental importance in any attempt to take stock of present day intellectual tendencies. Any statement of it at this stage of a paper like the present must necessarily be condensed and unsatisfactory. What follows is intended merely as an indication of its general nature and bearing. For a fuller statement, the reader is referred to the treatment of the subject of the External World by the best psychologists of the present time.¹

¹ For example, Professor Stout's chapter on "The External World as Ideal Construction." *Manual of Psychology*, Bk. IV. c. VI.

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Our result, so far, is that the attempt to explain the universe in terms of physical energy has brought to us a *n'impasse*. This suggests the question whether the attempt has not been a misguided one from the outset, and whether we might not have fared better, had we reversed the process and taken as our starting point, instead of the atomic structure of matter and the law of the conservation of energy, the structure of our own wills and the system of ends of which consciousness in its essence consists. At a point in the development of astronomy, the world was invited by the heliocentric theory to reverse all its former ideas. Psychology has to-day arrived at conclusions which invite a similar reversal of customary modes of thinking.¹ In bare outline, the Copernican theory of the relation of mind and matter may be stated as follows:

The characteristic of mental, as opposed to material action is that it is guided by purpose. After what has been said, we need not pause over this. Neither need we enter on the question of the ruling purpose of conscious beings. All are agreed that, for ordinary ends, it is sufficient to describe it as our own happiness or perfection. It is further unnecessary at this time of day to spend words in proving that human life, in its best representatives, whether individuals or societies, means development of faculty,—the ever fuller expression of the powers and capabilities of human nature. But in proportion as we admit these conclusions, we seem also to be bound to admit

¹ Hegel defined philosophy in general as an invitation to stand upon our heads.

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that the law of human life, so far from being a law of conservation, is a law of constantly increasing energy — of increased efficiency. In this increase, called in leading articles “the march of civilisation,” one of the most conspicuous factors is increased power over nature, as represented by our tools and machines,— in a word, by the whole labour-saving apparatus of life and the scientific ideas that have made them possible. The former of these we are accustomed to consider our own creations, and, in the strict sense, instruments for purposes that lie beyond them. We are accustomed, on the other hand, to think of our mathematical and physical conceptions as something given independently of human actions and the ends they serve. Yet, strictly speaking, they are essentially of the same character as these material tools, results of the same process of selection and construction. This has long been recognised by thinkers to be true of mathematical conceptions. The lines, circles, and uniform dimensions with which geometry deals are generally acknowledged to be ideal constructions to which nothing corresponds in the concrete world of our sense-experience. The definitions, axioms, propositions with which Euclid makes us familiar, are instrumental conceptions whose validity is guaranteed to us by no independent existence, but by the extent to which they answer in experience to the demands we make upon them. So far, however, is the Euclidean system from being accepted as an expression of any absolute independent truth that it is asserted by some mathematicians to be merely one of many possible systems which, under other circum-

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stances, might come to be regarded as of equal validity.

But the arguments which apply to mathematical conceptions apply equally *mutatis mutandis* to those of physics. The uniform strains, pressures, energies, quantitative equivalents, atomic structures, with which science is upon so familiar terms, although they are suggested by sensory experience, are in no sense data of it, but are arrived at by the same process of selection and idealising construction as are the uniform spaces and numerical series of mathematics. Like the latter, they are working conceptions, tools of the mind, keys, as they are often called, to the secrets of nature. So far as they serve the purpose and fit the lock, they are accepted by us as real. Where they fail to act or serve any useful purpose, as organising principles, we rightly speak of them as illusory and set them aside in favour of others. By this it is not of course meant that the orderly arrangement of events in their sequences is merely an idea in the mind of the investigator, that there is nothing objectively real in matter, force, and energy. It is true that man has but recently made any considerable progress in reducing the complicated facts of nature to the simple expressions which are the counters of science in discovering, as we say, her laws. But the laws of nature antedated man's discovering mind: they are in no way dependent on it for their creation. But what follows from this? Not that the real world, as we thus come to know it in science, exists as something that could ever become manifest to our sense-organs, but that as a system of thoughts

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it corresponds to our thoughts, and that in thus thinking it we are reproducing its intelligible pattern in ourselves. Kepler discovered the true — or at any rate the relatively true — concepts that explained the motions of the planets, but he did so in his own words, because God had had these thoughts before him, and he could thus think them “after Him.”

The conclusion to which all this points is that physical conceptions are keys which have been put into our hands for the interpretation of a definite order of facts. But as we have found or formed these for the purpose of rendering intelligible to ourselves and controlling one order, we may very well have to find or fashion others, where a different order of facts is concerned. This is the contention of the present paper. I have tried to show that such a “transition into another order” takes place when we pass from inorganic matter to life and mind, from the physical to the mental, from an abstracted element of our experience to our experience as a concrete whole. We use a saw to make a fiddle; we throw it aside when we come to play upon it. In somewhat the same way, we use the law of causation from without and the conservation of energy, when we seek to explain to our minds the material world; we have to look for some other conception when we come to the action of the mind itself. There is a theological heresy known in the prayer-book as that of “confounding the substances.” The heresy in philosophy I have been trying to deal with is of somewhat the same kind. It is one that those who occupy themselves exclusively with physical phe-

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nomena are especially prone to. As we have seen, it was widely spread in the seventies of last century, when for a moment leading scientists, to use Words-worth's prophetic description, became the

“slaves
. . . of that false Secondary Power
By which we multiply distinctions, then
Deem that our puny boundaries are things
That we perceive and not that we have made.”

I have tried to show that our own time is marked by a different spirit. At the end of a period of unequalled success in physical science, indeed as a last phase of it, a wider intellectual horizon is opening out, in view of which the general truths of natural science are coming to be recognised, in the words of a pioneer in this field, as “themselves a sort of elements or agents under processes subordinate helpers of the human mind.”¹ This does not mean their degradation. On the contrary, it asserts their true dignity by assigning to them a place in the hierarchy of creative concepts in apprehending which the human mind reflects the divine.

How precisely they do this, in other words, in what relation the human stands to the Universal Mind, which is the object of religion, it is not the work of psychology to explain. Psychology has done its work, so far as religion is concerned, in removing the difficulty that comes from the opposition of the physical to the mental, and from the apparent secondariness of the latter in the order of creation. It remains

¹ Professor Royce, in *The World and the Individual*.

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for philosophy to lead us the further step, and show, as it may, that the purposes of humanity can only be rendered self-consistent and comprehensible when taken as part of a larger scheme which embraces and reconciles them.

JOHN H. MUIRHEAD.

BIRMINGHAM.

A SOCIOLOGICAL APPROACH TOWARDS UNITY

VICTOR V. BRANFORD, M.A.

Honorary Secretary, The Sociological Society

I

TO the sociologist the relation of Religion and Science is a particular case of a more general one. In the first place, the relation may be one of conflict or co-operation, of antagonistic multiplicity or of unity, of mutual exclusion or of alternating opposition and reconciliation. Whether it is viewed under one or more of these aspects, depends of course upon conditions of time and place, upon the mood or personality of the investigator, and upon his method of investigation; it depends too upon the character of the individuals taken as representatives of religious and scientific interests, and also upon the definitions of those interests from which the investigator sets out. In the second place, the relation of Religion and Science is sociologically one amongst other cases of cultural differentiation, and the general study of these is surely a condition necessary to the understanding of any particular one of them.

As the naturalist thinks of animals not only as united into a "kingdom," but also as divided into more or less

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definable groups with distinctive characters common to the members of a given group, so the sociologist thinks of any given society not only as a social unity, but also as a whole divisible into social groups possessing common group-interests. The sociologist's handling of Religion and Science thus begins by asking what social groupings are brought about by the interests called Religious and Scientific. Here the practical difficulties of the investigation at once come into view. Turn to the Census Reports, and you find that governments do not know how to ask, and the people do not know how to answer, questions about either Religion or Science.¹ And the statisticians, who should instruct both the governments and the people in these matters, are themselves slow to grow out of their sociological long-clothes, and apt to remain content with mathematical toys. Driven back on his own resources, the sociologist utilizes such material as the contemporary state of his own study affords.

To identify Religion with Priestcraft is a fallacy surviving in popular thought from pre-sociological (notably eighteenth century) philosophy. Yet the sociologist may, without in any way committing himself to that fallacy, utilize the element of truth that has caused it to be believed. That element of truth is briefly this: that where the study and the inculcation of Religion is the occupation of a group

¹ The Australian census schedules ask the question: "What is your religion?" It is said that many people reply, quite truthfully, no doubt, "I don't know." Others, with admirable insight and candor, reply, "*f. s. d.*"

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of persons — the Priesthood — there is a tendency for religious interests to become differentiated from the social interests of the whole community. The Priesthood professes to represent the religious interests of the community, and at its best periods, and in the long run, doubtless does so with more or less completeness. But in the making of the constantly required adjustments and re-adjustments between group-interests and community interests, there must, in the nature of things, be endlessly repeated opportunities for conflict and antagonism. The law of evolution, formulated by Hegel as a generalization from the Kantian categories, applies here as elsewhere — differentiation and integration alternating as correlative parts of a continuing process of spiral development.

In addition to the Priesthood, other social groups arise and organise themselves, each representing some community interest. For the purpose of the present argument, and in application to the present phase of occidental civilisation, these other groups may perhaps be reckoned as follows :¹

- | | |
|--------------------------------|-------------------|
| (1) Scientists ; | (4) Politicians ; |
| (2) Industrialists ; | (5) Historians ; |
| (3) Literary Men and Artists ; | (6) Philosophers. |

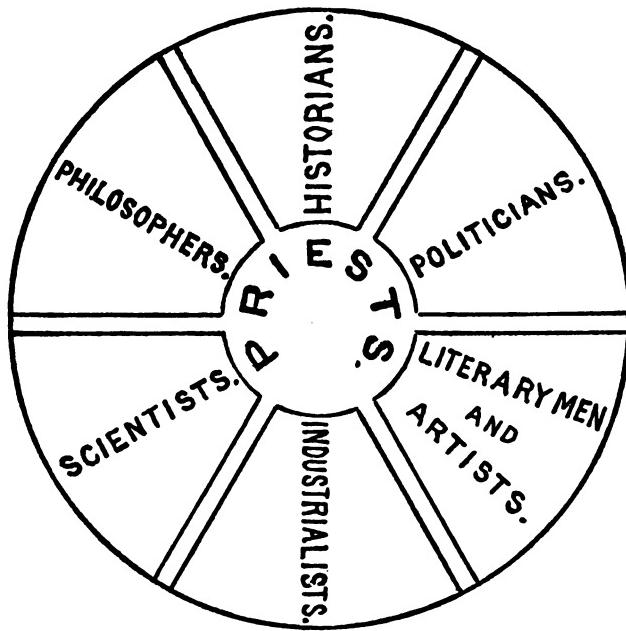
And lest the more important half of Western Humanity be still unrepresented in the classification,

¹ This classification is borrowed, in a modified form, from one of the many unpublished sociological essays of Professor Geddes. Doubtless are derived from the same source more of the ideas in the text than the writer is aware of, and the latter are not few.

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there should be added a seventh group,—that of women,—the Feminists.

But, omitting the Feminist Group, for want of knowing whether it is sociologically equivalent to any one of the others or to all of them together, and awarding to Religion (for the present, without examination) the central place it traditionally claims, the position might be diagrammatically represented thus:



Notwithstanding the profession of social unity, it is manifest that in each case the Group-Interest is likely to be, under normal circumstances, more or less diver-

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gent from the Community Interest, and that harmony can only be approached by a process which implies a certain degree of conflict and sacrifice. The subdivision of thought and action, the specialisation of occupation and of leisure, have, amongst western nations, proceeded so far that the social groups enumerated above are substantially distinct collections of different individuals. The group boundaries are, to be sure, in no case sharply defined. There are individuals common to two or more, or even to all of the groups. But this overlapping is not—even in the case of groups most nearly related—sufficient to insure a free passage and circulation of ideals from group to group. These ideals are complementary and harmonious, or exclusive and discordant, according to circumstance. The larger the number of individuals at any one time whose thought and interest are effective in two, or three, or more groups, the more complementary and harmonious is likely to be the aggregate of group-ideals; the fewer such men, the poorer, the more exclusive and antagonistic the ideals of all. And this so, not merely because of the contagion of ideas in the mingling of diverse individuals, but more especially because ideals can only grow out of the experience to which they are relevant.

II

As an example of cultural differentiation, which has to be compared with the relation of Religion and Science, contrast the ideals of Science and of Industry. Here, in the opposition of the man of theory

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and the man of practice, the abstract thinker and the concrete worker, we have one of the most deep-seated of human antagonisms, perhaps the most elemental of all, next to the antagonism of sex, yet, like it, capable of blending into the most intimate and fruitful union. In proof of the intimacy and fruitfulness of this union, one needs only to cite, amongst recent types, such cases as that of Darwin, breeder and naturalist; Pasteur, peasant, chemist, physiologist, bacteriologist; Kelvin, mathematician and instrument maker; Hooker, gardener and botanist. Amongst older examples, recall Lavoisier, chemist and farmer; Linnæus, shoemaker, gardener, and naturalist; John Napier (inventor of logarithms), farmer and mathematician; Galileo, astronomer and mechanic; Simon Stevin, engineer and mathematician. In proof of the opposition, there is the historical fact that while Industry is the oldest of organised human activities, Science is the youngest. The priests, the politicians, the literary men, the artists, the historians, the philosophers, all constituted themselves into recognised social groups, long before the man of science secured his footing in the scheme of things. It is only in a small part of the globe that he has done so yet, and even there under narrow restrictions. Science, as an occupation, as a career, is, in its own home in the culture centres of the western world, officially tolerated if it sponges on charity, and socially encouraged and acclaimed if it riots into importance and respectability on the produce of patent fees.

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causation in the human mind and the restriction of its sphere of application is, to be sure, a social phenomenon of the most general kind, by no means confined to the industrial class. It is indeed in the mind of the manual worker that the sense of an impersonal mechanical sequence in phenomena, spontaneously arises and develops up to a certain point. Adam Smith remarked that amongst no people is found a God of Weight; and if modern anthropology discovers one, it will be not amongst savage tribes, but amongst the devotees of the New Chemistry, or the New Astronomy. Be that as it may, the point of insistence here is that in the mind of the working industrialist the sense of mechanical sequence, though an integral part of his occupational outfit, yet tends to operate merely as a subconscious power — like respiration or any other physiological function. It is part of his system of physiological thought, inherited and acquired. It belongs to his instinct of workmanship, — of which indeed it is the psychic counterpart. It is a means to an end, — the end being the production of an object for material use.

Thus, in respect of primary human origin, the idea of causation has apparently been initially generated in the mind of the workman; and that by his occupational experience. But to the scientist, as abstract thinker, has been left the development of the workman's sense of mechanical sequence into an explicit Principle of Causation. In his hands the conception of causation has become a tool of conscious thought, a methodological device of the highest utility in the effort to understand Nature.

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Here also it is a means to an end. But the immediate end is one not of work, but of abstract thought, that is, it is spiritual and not material. It is a vision of the world—but a vision of the world with its elements of Work and Play, of Accident and Design, of Personality and of Mystery, all eliminated by the very postulate of its method. It is a picture of a world in which the sum total of phenomena, past, present, and future, is seen as endless chains of causation linked in mechanical sequence, colourless, impersonal, quantitatively determined.

The idea of the principle of causation as a methodological convention requiring for its effective use to be consciously elaborated by the mind, as the mason's chisel requires to be sharpened on the grindstone, is a conquest achieved for the race by generations of abstract thinkers. The full and free use of this scientific tool, the competent handling of this principle of causation, is a rare quality possessed by relatively few people. Its possession by the scientist spiritually differentiates him from the worker. And it is morally congruent with this deep distinction between the abstract thinker and the concrete worker, between Science and Industry, that the occupational conduct of the industrial group is governed by traditions of reserve and secrecy, and that of the scientific, by traditions of freedom and publicity. The group-morality ordains that the industrialist shall keep the use of his tools a group-secret, and permits it as an individual secret. His traditional group-morality, on the other hand, compels the scientist to teach the use of scientific tools, to all who are willing to learn—and to a

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good many others who are not. In the long protracted struggle with the problems of science, the efforts of generations of abstract thinkers to devise and perfect tools of thought and to teach to others the use of these new organs of spiritual power, there has grown up — as is the way of human evolution — a vast complexity of Craft-Symbolism and Craft-Custom. In its most general and abstract form this Craft-Symbolism and Custom is Mathematics and Logic.

The formalism of Mathematics and Logic, with its apparent absence of objective ritual, may seem at first sight to be the farthest possible removed from those observances, which, in Conduct and Religion, are called ceremonial. But the essence of ceremonial is the symbolic representation of ideas and emotions. The degree of objectivity attaching to the ritual is incidental. In ordinary religious ceremonial it varies from (say) the stage machinery of a Passion Play to the imaginary marking of a cruciform sign in empty space. Now the modern notion of mathematical space and time as not identical with, but as symbolically related to empirical space and time, makes it clear that the ceremonial concept is to be found in the very heart of mathematics. Logical reasoning is doubtless similarly related to empirical reasoning. It would be an undue stretching of language to say that Mathematics and Logic are the ceremonialism of science. What is contended is that the formalism of Mathematics and Logic is, in the scientific group, the spiritual homologue of what, in the religious group, is ceremonialism. And, more-

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over, is it not the case that the extreme refinement and attenuation of the ceremonial element in Mathematics and Logic tends to increase rather than diminish the danger which accompanies all symbolic expression, the danger of exalting the sign above the thing signified, of subordinating the idea or the emotion to the form of the expression? To say that, does not mean that Mathematicians and Logicians are necessarily formalists—they are organisers of formalism in the service of Science. The driver of fat oxen need not himself be fat—though doubtless there is a considerable tendency that way.

It is a defect of the natural man and a habit of the educated man to commit moral suicide with the implements of their own making, in their different ways. That, to be sure, is an absurd upshot for a rational being's activity. But, as Hobbes pointed out, it is the capacity for absurdity no less than the capacity for rationality, that distinguishes man from the animals. In respect of both these distinguishing characteristics, the scientist is amongst the least animal of men. The particular absurdity to which the scientist is prone, is, psychologically speaking, a certain loss of memory. He forgets his postulates. He forgets that the Principle of Causation, most potent of thought engines though it is, yet is but a methodological convention of the scientific mind. He forgets those elements which by postulatory assumption he omitted at the outset from his scheme of thought. Especially is he liable to forget altogether the element of Personality, undefinable because unique, and the element of Mystery, unmeasurable and unde-

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terminated, but subtly pervading all things as an inexhaustible factor. More strange still perhaps, he forgets the elements of Work and Play. He even descends sometimes to a contemptuous allusion to the vulgarity of utilitarian motives, and then, with the consistency of the caviller, he complains of the uselessness of Literature and Art. With reciprocating contempt and misunderstanding, the Worker and the Artist retaliate by calling the scientist "a mere theorist," a "dry-as-dust pedant."

The scientist who, by overspecialisation, or through stunting of early culture, declines into this state of obliviousness has become the slave of his own methods. In that condition the scientist is a thorough-going formalist — a type known to theological discussion as an Idolater. Now to the slave there is only wanting the opportunity to become a tyrant; and it would be mere foolhardiness to deny that there are scientists who covet and would grasp the territory of all the other cultural groups. That Science should, with its ideas, its formulæ, and its methods always pervade and sometimes invade the domain of Philosophy, History, and Literature, is natural, inevitable, and highly productive of useful results. But the scientist is at once obscurantist and tyrannical, if he denies legitimacy to the various methodological conventions which generations of philosophers and historians, writers and poets, artists and women, have devised for dealing with their particular order of problems. The dialectic of philosophy, the æsthetic induction (to use the phrase of Helmholtz) of the historian and the literary man, the intuition of the poet and

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the woman, are all of them conscious or subconscious methods of knowledge, which, rightly used, stand in supplementary and not exclusive relation to the scientific principle of Causation. Of the positive value and function of dogma, nothing need here be said, for Theology has no monopoly of that useful method of research. And, to be fair, it must be added that Science has no monopoly of the misuse of dogma.¹

The sociological position of the scientist becomes more intelligible if we regard the type as comprised

¹ The student of methodology treats as a rare and precious specimen the scientific writer who shows any clearness of perception, in respect of the borderland which separates scientific proof from dogmatic utterance. It is one of the saddest and most damaging reproaches against the scientific group, that, with all their insistence on method and nomenclature, yet neither their methodology nor their terminology takes formal account of the process by which practical precepts and maxims of conduct are derivable from scientific generalisations. This defect explains not a little of the misunderstanding between Science and Religion, for the relation of conduct to general truths is the special field of theological dogma. The few who, as sociologists, have tried to cultivate this field scientifically, have been sooner or later condemned by the congregations of Scientists and Philosophers, and forthwith excommunicated — their books put on the Index, themselves persecuted as heretics. That is why, for two generations, sociologists have wandered as pariahs amongst the outcasts of Science and Philosophy. The history of the persecutions of innovators by the pontifical officialdom of Science and Philosophy has yet to be written. The materials are ample and daily increasing. *Plus ça change, plus c'est la même chose.* And yet the pioneers of sociology did not enjoy the good fortune of St. Augustine, who, it is well known, escaped excommunication by taking the precaution of being an Early Father.

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of two varieties. And if we call one the "Naturalist" and the other the "Logician,"¹ that must not be taken to imply any exclusive differentiation between the two varieties, but only a predominant tendency in each. The scientific type itself stands for a certain attitude of man towards nature,—an attitude in which the intellectual is at its maximum and the emotional at its minimum. In the "naturalist," the emotional element persists with sufficient intensity to raise from among his occupational ideas, human ideals, potential if not active. In the "logician," the emotional element tends to be reduced to vanishing point, and when that happens the investigator becomes a victim of his intellectual machinery,—he becomes, in fact, a mere formalist. This psychological distinction is important sociologically, because it is a chief factor in determining the associations between the scientific and other social groups,—their alliances and their hostilities; their possibilities of co-operation or of conflict.

III

THE groups previously enumerated as sociologically co-ordinate with the Scientists were — it will be remembered — the Industrialists, the Literary Men and Artists, the Politicians, the Historians, and the Philosophers. It is contended that the individuals composing each of these groups may be psychologically

¹ If it were permissible to coin a word, "logicist" would be preferable in order to avoid confusion with the professed logician, who is usually a philosopher strayed into the camp of the scientists.

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classified on a basis of division similar to that applied to the scientists — and with corresponding sociological implications. In other words, the representative type of personality in each group may be treated as one or other of two varieties. In the one variety, the more emotional, the group-ideals are relatively concrete, and hence being more capable of expression, artistic or other, they predominate in thought and action over the group-formalism. In the other variety, the group-ideals are subordinated to those methodological conventions which constitute the group-formalism; and the individual's course of life and conduct may thus come to be very differently directed. The former variety may be called Idealist and the latter Formalist¹ — provided, as al-

¹ The objections to this usage of these two familiar words are obvious and real. Both words, however plastic in meaning, have yet a connotation more definite and limited than is here intended. The difficulty can only be met, and that partially, by new coinages. For the type of personality here designated Formalist, Mr. William Macdonald suggests the word Formulist, — a person whose faith is in Formula. Mr. Macdonald writes: "As to a substitute, I think the coinage 'formulist,' as the designation of all those who deal with knowledge on the Chinese assumption that it has reference to a static system of things and an immutable consent, and who deal with facts at that stage at which they have become figures, and with figures at that stage at which they have become algebraic expressions — for these people, I say, or for people in this phase of mind, the word 'formulist' would be a good descriptive designation and brand of infamy. 'Formulism' is absolutely accurate as to meaning and has the advantage of being pure, antiseptic, neutral, trolled by a sense of humour." For "idealist" in the text Mr. Macdonald suggests "vitalist."

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ready said, that these designations are taken to imply merely a predominant tendency in the one or other direction, and are not understood as drawing a sharp line of demarcation which puts on the right, a number of persons devoid of formalism, and on the left, persons without idealism. In every individual the two qualities are manifestly mingled. But it is important, both for practical and for theoretical purposes, to be able to distinguish between those in whom the one or other quality predominates.

Space prescribed forbids any adequate demonstration of the grounds of this classification here adduced as of general validity. But the mere dogmatic statement of the thesis has its uses. Propounded to an Idealist, no matter of what group, it will generally be found to receive his assent. On the other hand, let the proposition be advanced in the presence of a Formalist, then, whether he be a philosopher or a man of affairs, a historian or a politician, a scientist or an artist, he will, in all probability, say it is rubbish. Thus, in the hands of those practically concerned with the classification of their fellow-men, it may serve as a touchstone of character. The principle is doubtless well-known to students of Pastoral Theology.

IV

IN the case of the industrial group, a classification of psychological types has been worked out, and their social evolution traced, by Mr. Thorstein Veblen in

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a remarkable book.¹ To have combined in one treatise something of Herbert Spencer's philosophical massiveness, of William James' psychological subtlety, of Karl Marx's power of reconstructing economic formulæ, and to have brightened the whole from a new vein of humour is a feat of which American Sociology may reasonably boast. Mr. Veblen's thesis is briefly this: The earliest subdivision of labour, arising out of and superimposed on that of sex, is a division of occupations into those that are of the nature of exploit and prowess, and those that are of the nature of drudgery. The corresponding psychological types are characterised by, on the one hand, audacity and predaciousness, and on the other by timidity and submission. The correlative sociological grouping is into a higher class engaged in "honorific occupations," and a lower class engaged in "humilific occupations." The military occupation is manifestly one that is highly honorific, not only because it serves to display audacity and prowess, but also because by affording opportunity for the accumulation of loot, it provides means for a peaceful occupation that is also highly honorific, — the "performance of leisure." And with the growth of civilisation, the increase of wealth, the further subdivision and specialisation of labour, numerous refinements of honorific occupation become possible. The performance of leisure, for instance, at first only undertaken by the superior person himself, may be

¹ "The Theory of the Leisure Class, — an Economic Study in the Evolution of Institutions," by Thorstein Veblen. New York, The Macmillan Co., 1899.

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increasingly assisted by others, wife, family, and increasing circles of dependents, at length quite vicariously performed,—as by engaging a stalwart Hercules to serve as a Footman. Moreover, this vicarious performance of leisure has the further advantage of setting free the Master Man himself to satisfy those universal human instincts of workmanship which, in the higher class scheme of life, tend to be countered by the exigencies of honorific leisure. Having taken adequate precautions against the derogation of his gentlemanly status (primarily, by the copious, regular, and manifest consumption of costly goods, in his person, and if possible also vicariously, by his attendants and household), the man of higher class, now clearly distinguished by this process of "conspicuous waste," permits himself to relax from the performance of leisure, and engage in occupations that otherwise might mark him with the taint of drudgery. Particularly is this the case when the industrial system reaches that stage of development where it bases itself on a money economy. A change from the system of payment in kind to payment in money, means a revolution in the methodological conventions of the industrial system. And this revolution is in the direction of a more facile exaltation of method at the expense of ideal. It involves great possibilities of wealth acquisition by audacious manipulation of the symbols and tokens of industrial values. Here, in fact, are new and abundant opportunities for achievements of exploit and prowess (cunning increasingly aiding force); and their gains consequently admit of the creation and multiplication of

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new occupations, honorific and other. These whole later refinements of the progress of civilisation are broadly spoken of as Financiering.

Such, in too scanty outline, is Mr. Veblen's theory.¹ It is cited here as affording grounds for a sociological subdivision of the Industrial group parallel to that of the Scientific group. Attending the evolution of honorific occupations there has been a luxuriant cultural growth of formalism. The distinction between honorific and humiliific occupations is manifestly the economic correlative of the juristic distinction between Status and Contract. And the elaborate and ever-increasing organisation of formalism into ceremonialism, which everywhere accompanies a system of Status, adorning and supporting it, is too universally known to need illustration. On this adamantine crust of custom, which envelopes the well-baked cake of status, innovating genius has countless times broken its teeth.

What is the economic need and consequent aim of a system based on status? It is, in the talk of the home, the possession of "private means;" in the language of the modern market-place, it is the "holding of investments;" in the cultural terminology and aspiration of the learned world, it is the creation of pecuniary "endowments." Contrast this with the economic aim of those engaged in humiliific occupa-

¹ It will be observed that Mr. Veblen's theory reaches a larger and perhaps a more fruitful economic generalisation than that of Comte and Spencer — the economic law of development from militarist to industrial civilisation being included and transcended in Mr. Veblen's theory, its apparent reverions becoming explained.

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tions. What does the workman ask but a job? What remuneration does he seek but pay for work done? The inherent social inferiority is obvious. Yet is this inferiority after all so desirable? If not, is it inevitable, is it permanent?

To these simple and common economic ends of job and pay, there only needs to be added an equally simple and common conception, yet one not only industrial, but æsthetic, scientific, and moral also, that of a "good job," and these humble aims straightway rise and extend to the level of a social ideal, potential or actual. The social and ideal aspects of a good job are doubtless, in the minds of the great majority of workers, latent; they exist nevertheless in subconscious motivation. And in the very fact of their present unconsciousness lies their importance for us here, since it reveals natural processes at work tending to the harmonisation of individual interests with group-interests, and of group-interests with the largest social interests. The master-discovery of spiritual man lies in the awakening of these subconscious social ideals and in devising means for educating them into the richest blossomings of regenerative social service. It is noteworthy that the great "*accoucheurs d'esprit*" throughout history have been, almost without exception, persons given to humiliific occupations, — either by inheritance, or by personal predilection.

The workers, to be sure, are already not without their own organisation of symbol and of custom. And a tough and unprogressive formalism and ceremonialism it largely is. Yet looking at it in the large

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historic way, their group-formalism shows a tendency to be subordinated to group-idealism. Must not the contrary be said of that variety of the industrial type represented by the Pecuniary Culture? The endowed individual may himself rise to exalted heights of social idealism. But in process of doing so, he constantly loses or resigns his privileges of endowment. Otherwise it is only by a miracle of moral sensitivity that he can respond to the general sense of social solidarity. In the mere fact of endowment, there is a certain degree of social isolation, which, if not in the individual, yet in the course of two or three generations does and must tend to produce anti-social elements in the subconscious motivation of conduct. Sociologically, the individual is a member of a group, an item in a series, a punctuation in a system. The present contention is that, within the Industrial Group, there is at work a methodological principle, of which the apparatus and process—that of Financiering—tend to produce a variety of the group-type, in which Idealism is subordinated to Formalism and Ceremonialism.

The conflict between Religion and Science, much in evidence though it has been during the past three or four centuries, is thus but a mushroom affair compared with that conflict between Religion and the pecuniary interest above analysed; so that we may now identify the ponderous general enunciation which we have just reached, as a tardy sociological restatement of a time-worn aphorism of religion: "Ye cannot serve God and Mammon." The early Christian thought about the difficulty of the rich man

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entering the kingdom of heaven, and the apparent exaggeration of the love of money, as the root of all evil, crystallised in the mediæval Catholic Church into a definite pronouncement of the Canon Law, that Commerce "dispicet Deo." Of the many applications of this principle by religion, one of the most ancient and wide-spread is, of course, the attempt made not only by the Christian, but by other churches, to extinguish, or to mitigate usury.

Here, in the opposition of the church to the pecuniary interest, is incidentally revealed one of the many sources of conflict between Religion and Science. The ecclesiastical condemnation of the rich man is doubtless a theoretical depreciation, tempered in practice by copious adulation. But the point to observe is just this—that it *is* theoretical; that there is implicit in theological doctrine a moral theory of the use of wealth. The religious attitude to wealth emphasises what in economic terminology is termed consumption, as against production. Precisely the contrary is the traditional attitude of the science of economics,—if, by the courtesy of physicists and biologists, economics may be counted in the circle of the sciences. Until the present generation, economic science not only offered no theory of consumption, but even repudiated the need for one. When economic science is able to formulate a theory of consumption,—and it is now beginning to do so,—it does not of course follow that the scientific theory will square with that implicitly contained in Christian doctrine. But a purely obscurantist element of conflict between Religion and Science will be elimi-

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nated, and the way prepared for an unbiased discussion of common ground.

Now it is fair to generalise this instance as typical of many cases of conflict between Religion and Science. Generations of empirical observers, using subconscious or semi-conscious methods, have dimly reached many deep-seated truths and incorporated them—it may be in vague and approximate form—in religious doctrine. And it frequently happens that this sort of truth is the last to be consciously reached by the scientist and formulated in verifiable shape. Yet, meanwhile, Science, with the ready assurance of youth, is too apt to oppose to the claim of Religion to holiness of thought its own immature synthesis of totality—which proves, on further examination, to be not a genuine whole, but a partial and fragmentary aspect of the truth.

V

AFTER the Industrial, the remaining Groups that have to be considered in respect of a possible distinction into Idealists and Formalists, are the Literary and Artistic, the Political, the Historical, and the Philosophical. In any adequate scheme of treatment, the questions to be asked about each of these would be somewhat as follows: What particular aspects of human nature constitute the special group-interest? How does it come about that this particular interest gets established as an end of group-activities? What means—what special methodological conventions—

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have been devised by the collective group-experience, to achieve its specific ends? We should have to inquire also, under what conditions the methodological conventions of the group develop into an organised formalism, and under what conditions this, with its associated ceremonialism, may hinder or favour the evolution of group ends into social ideals. And all these general inquiries would, were an adequate sociological investigation here possible, be the theoretic accompaniment of actual observation. Such observation would be directed to ascertain what individuals are, as a matter of fact, arrested in their spiritual development by getting enmeshed within the nets of group-formalism; and what individuals do, as a matter of fact, pass in the opposite direction, from the quest of individual ends to group ends, and from these to the striving for social ideals. The latter—the idealists—in their individual lives run the full course of the racial development of the group; the former—the formalists—by failure of educational process or by defect of inheritance, never get awakened to the higher spiritual stages of racial evolution. These inquiries and investigations obviously cannot, however, be now entered upon. It must here suffice if we deal with the remaining groups in the briefest possible way.

In Literature, the distinction between the Formalists or Stylists and the Humanists is familiar to all, as an example of the psychological analysis here attempted; the Stylists making method an end in itself, and the Humanists making it serve as a means to an end. Equally familiar in other departments of

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aesthetics are the doctrine and practice of "Art for Art's sake." But it is not so widely recognised, that the pictorial, the plastic, and other fine arts, as well as the Literary, oppose their humanists to their stylists. Erasmus and Melancthon have their strict homologues in Leonardo and Michael Angelo; Goethe and Emerson, in Corot and Millet, in Beethoven and Wagner. The Stylists are manifestly —in the terms of our analysis—the Formalists; and the Humanists, the Idealists—potential or actual —of the Literary and Artistic Group. As a typical example of the relation of this group to the Religious, take Matthew Arnold's "Literature and Dogma," where the Humanists of Literature are depicted as in harmony with the Idealists of Religion, and in conflict with the Dogmatists of Religion.

VI

IN Politics, it is not difficult to decipher the Idealists and the Formalists. Politicians have been accused of inefficiency in all departments, save indeed one, that of advertisement. Thanks to their efficiency in securing publicity, politicians of all types are known to every one who reads history, or absorbs fiction. Thus it is easy to instance well-known examples of every variety of politician, even of idealists astray in that group. But first it is necessary to say a word in this case also as to group ends and group means.

The aim of the group activity called Politics is the

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organisation of social selection. Taking the phrase in its largest sense, natural selection, to be sure, includes social selection and manifests itself as such, under certain conditions. But that is a form of language which sociologists use and biologists generally abuse. The biologist only earns his right to the use of such a nomenclature by turning sociologist *pro tem*. These subtleties apart, the fact remains that there exists a powerful and abiding group of persons devoting themselves to the organisation of selective processes, by which certain group and individual types are encouraged, and others eliminated.

As in other cases, occupational experience, accumulating through generations of politicians, has devised highly specialised means towards the attainment of group ends. This highly specialised development of group organs (chiefly prehensile) is the system of Law. Jurisprudence is the methodology of Politics. Legalism is the Formalism of Politics.

This is not to say all lawyers are formalists. That is far from being the case. As every sociological observer must be aware, there are to be found amongst the members of that immemorial profession many political idealists, especially among those lawyers who have early in life given up practice. Nor is it to deny that multitudes of political formalists are to be found outside the legal profession. In fact, the typical formalist of Politics is not the lawyer, but the policeman. In the policeman we see group ends completely subordinated to, or perhaps, one should say, identified with, group means. Whatever of social selection proceeds from him, is exercised

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automatically by uniform and baton. This truth finds unconscious expression in that growing usage of political nomenclature by which the body of police is spoken of as "the force." In the identification of means and end, of symbol and process, which, philosophically speaking, supports the police scheme of social selection, the orthodox biologist will recognise the principle of Natural Selection, and the progressive theologian will recognise the principle of idolatry.

But who *are* the idealists of Politics? Here, we may, without offence, have recourse to illustrative examples. Many familiar pictures will at once suggest themselves from history. Take, for instance, more than one Roman Emperor of the second century, consciously applying, with a superb heroism, the maxims of the stoical philosophy, both to personal conduct and to political Government, having at command every resource of refined luxury, but choosing in externals the simplicity of a peasant's life, often on foot, bare-headed, unattended, in endless perambulations, ceaselessly supervising the cities of the vast domain; or take Charlemagne, creating local administration, organising the resources of a complex culture, strenuous to infect every one with his own simple and frugal habits, his own zeal for hard work, his own passion for culture; or King Alfred, after expelling the foreign invaders, devoting himself to the organisation of education, setting up schools, seeing to the publishing of suitable literature for the people; or Cromwell, selecting his Parliament from those whom he believed to be the wise, the

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honest, and the good; or Frederick the Great (after the experience of war had taught him its horrors and futilities), living without parade in a cottage, working like a galley-slave in the public service, selecting his friends from amongst philosophers and scientists, acting on his own maxim, that "a man that seeks truth and loves it, must be reckoned precious in every society;" or Jefferson, striving to unite political philosophy with practical administration, and thus combine in the creation of a new nation the qualities both of patriotism and cosmopolitanism, while rejecting the defects of each, so that "every man might have two countries, his own and France."

'T is needless to multiply examples. The point is, to observe something of the process by which group ends may be transmuted into social ideals. In Politics, as elsewhere, the dynamic of progress remains, as yet, a more than half-concealed secret. But one factor at least is conspicuous in the lives of political idealists. And that is the indomitable quest and persistent utilisation of moral and intellectual forces that reside in the activities characteristic of other social groups than their own. Hence the lavish encouragement of cultural agencies by idealist politicians, their reliance on education, their organised efforts to democratise the sources of culture.¹ (Educationists, generally speaking, are not politicians, but idealist

¹ "It becomes every day more evident how hopeless is the task of reconstructing political institutions, without the previous remodelling of opinion and life." *General View of Positivism*, trans. J. H. Bridges, p. 2. This was no new doctrine in 1848, but there are fewer likely to dispute it now than then.

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politicians are necessarily educationists.) Hence also their sparing and cautious use of juristic means either for the purpose of bettering bad customs or of confirming good ones. On its negative side, the political ideal is tersely put in that letter of Trajan to Pliny the younger when Governor of Bithynia,— much quoted, but always worth quoting again,— “Let the people alone, do not interfere with their customary rights of self-government. See that no new local taxes are imposed and that there is no waste or jobbery: but otherwise let them manage for themselves.” A customary modern example of creative idealism by politicians is the establishment of the University of Berlin, as a primary step in the re-organisation of a devastated country. A relatively perfected combination of these two aspects—the negative and the positive—of political idealism, is seen in the life of Turgot.¹ But it is arguable that the highest achievements of political idealism have been reached by men not reckoned as of the political group—in former times, for instance, by the organisers of the great monastic institutions; in recent times, by great administrators—at once temporal and spiritual—like Thomas Chalmers, or even—though it smacks of paradox to say it—by Robert

¹ “The most memorable example in modern times of a man who united the spirit of philosophy with the pursuits of active life, and kept wholly clear from the partialities and prejudices both of the student and of the practical statesman, was Turgot, who will long remain the wonder not only of his age, but of all history, for his astonishing combination of the most opposite, and (judging from common experience) almost incompatible excellencies.” J. S. Mill, West. Rev. xxvi. p. 25.

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Owen. With a degree more of audacity, it might be maintained that the archetype of idealist politician is the common or domestic housewife. The subordination of personal to social ends, and of intellect to feeling, which psychologically characterises woman, has its sociological correlate in a combination of devoutness in ceremonial observance, with a high degree of potentiality for idealism. In this, as in a certain habit of clothing, the Priest mimetically approaches the Woman. And thereby he acquires something of that primal magic of sex—the mysterious moralising or demoralising force which, according to circumstances, is a chief determinant in spiritual progress or degeneration.¹

In regard to the conflict between Church and State a single point only can be noted. Where, as in existing occidental civilisation, Politics and Religion are occupationally represented by organised groups, then a certain degree of opposition between Political and Religious interests would appear to be inevitable and perennial. There will, in the nature of things, be found in both groups, individuals whose interests are mainly material, and individuals whose interests are mainly spiritual. The former are, in the terms of the analysis here attempted, the formalist or ceremonialist variant of the group type, and the latter, the idealist variant. The interests of the Politicians as a group, on the whole, are doubtless material, and those of the Priestly group, on the whole, spiritual.

¹ It is noteworthy that of all the great centralised Governments, the only one which, according to current rumour, has its finances in thoroughly sound order is the Vatican.

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And hence, on this ground alone, a tendency to group-conflict, as well as to group-co-operation. But circumstances constantly arise in which the cleavage between the two varieties — the formalist and the idealist — in each group will prove greater than any inter-group opposition. The idealists of each group will then tend to ally against the formalists of each. The conflict between the temporal and the spiritual power thus tends to become more and more a conflict of individual types rather than of occupational groups.

VII

IN respect of the Historians, it may help us to our sociological classification to recall the early times when the historical group was only partially differentiated from the Literary and Artistic on one side and the Priestly group on the other. The annalists and chroniclers of those days had recourse to a simple process of itemised enumeration — a naïve application of primitive mathematical resources to the record of phenomena in time. The early annalists and chroniclers had many merits. Their chief defects were two. They enjoyed a nicety of discrimination which insured the almost invariable omission from their record, of the more important phenomena. In the second place, they had a sense of causation which was embryonic or defective. The old annalist type survives in living examples, numerous and conspicuous. It was the prevalence of this type and its spiritual homology with the formalist of science that

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prompted Matthew Arnold's prophecy, that if he lived to be eighty years of age, he would be the only person in England who read anything beside newspapers and scientific transactions. He forgot, however, that the formalists of Literature, Theology, and Philosophy have an army of printers in their service.

A highly specialised and invaluable variant of this annalist type is the statistician. He, to be sure, is, in the higher examples of the variety, by no means deficient in the sense of causation, but rather has gone to the other extreme, and suffered a hypertrophied development of it, accompanied by corresponding atrophy of faculty for using other methods of historical research. Statistics by no means comprises the whole methodology of history, but it is a large part of it. And he who over-indulges in the statistical method, runs that risk of spiritual paralysis which insidiously lurks in all subordination of ends to means. He is, in short, on the high road to becoming a historical formalist.

There is a modern myth which tells how even the most eminent and gifted of investigators may, under certain circumstances, become the victim of the statistical habit. There was, so the story runs, a certain Cantabrian who, in his youth, achieved great eminence in the mathematical sciences. He was also a man of noble presence. A single glance at his countenance showed him to be a man of inspiration and, moreover, not only a born idealist, but also a born leader of idealists. Interested in the activities of every social group, he himself made illuminating researches, not only in his own subject of mathe-

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matical science, but also in many others, especially in history. By an accident of occupational exigency, he undertook the production of an exhaustive treatise on the History of the Theory of Numbers. By a few years of intense effort he produced a monumental work, such as might legitimately have used up the lives of half-a-dozen senior wranglers. But the effect of this over-specialisation was disastrous on the personality of the Cantabrian himself. He had become hypnotised by numbers. Numbers filled his vision to the exclusion of all else he had previously cherished. His power of statistical investigation became little short of miraculous. But where previously he had arduously sought soul-satisfying ideals, he was now content with the husks of formalism. Like the American who retired from business after making a fortune in saw-milling, but soon returned to spend his leisure in building new saw-mills up and down his disforested country, because "he did not know what else to do;" so this gifted mathematician might be said to have spent his later life in statistical investigation, because he had forgotten that the very things, the importance or interest of which had launched him on his great career of calculating about them, still continued to exist in the world, and were still interesting on their own account!

He repeated constantly the favourite prayer of his youth: "Give us, O Creator, good men." But that it had become little more than an empty formula was evident. For whenever a Good Man presented himself, the Cantabrian promptly asked: "Are you a Number?" And when the Good Man modestly re-

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plied that he was commonly counted something more than a cipher, the Cantabrian was wont to sigh and say sadly, there was no use in the intellectual world for anything but numbers. But sometimes there would flash into his eye a gleam of the old crusading zeal, and then the Cantabrian would promptly dismiss the Good Man, condemning him, with a pontifical utterance, to eternal perdition.

This story manifestly belongs to the mythology of the Pervert.

Who are the idealists of the historical group? What is the end of their group-activity? Is it not the ever-widening and more verified knowledge, the ever-deepening consciousness of the process of Becoming, in Man and Nature? And what individuals have contributed most to the growing knowledge of evolutionary processes? To ask the question is to think of Vico and Herder, of Kant and Hegel, of Comte and Spencer; of Buffon and Lamarck also, of Lyell and Darwin, with their forerunners and their continuators. Are we then to say that the evolutionists are the idealists of the historical group? Psychologically that is doubtless so. But sociologically, they are still rather potential than actual idealists. To transmute group ends into social ideals, there must be added some element of emotional interest derived from a wider experience than that of the group. We must seek a knowledge of evolutionary processes, not only for itself, but also for its human applications. We must generalise experience of the past, not only from the point of view of the present, but also of the future; not only from the point of

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view of Nature, but also of Man. In order to aid the development of any given type, animal or human (that is, to educate it), we must know much of the law and the limit of its general process of evolution. It is the search for this knowledge (human and natural), with a view to its practical application to social regeneration, that lies at the root of historical idealism. In respect of conscious, deliberate, systematic efforts in this direction, the two great sociological pioneers are Condorcet and Auguste Comte.

Condorcet's "Sketch of the Progress of the Human Mind" is not a purely historical and theoretical work. It contains, in a long final chapter, an attempt to deduce maxims of social organisation and precepts of individual conduct, from the principles previously reached by inductive historical generalisation. This last part of the "Sketch" has to be taken along with Condorcet's plan of national education, drawn up for the Constituent Assembly, and with his "Atlantide," or scheme for the organisation of scientific research. All these are fragmentary parts of systematic, but uncompleted, efforts to build up a practical social Art of regeneration on a basis of a social science, theoretical and historical. The same conception — at once evolutionary and regenerator — of developmental continuity from the Past through the Present into the Future, dictated the scheme of Comte's life and work. The six theoretical and historical volumes of "The Positive Philosophy" were followed by the four practical and idealistic volumes of the "Positive Polity." There was thus conceived the art of constructing idealistic

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Utopias, based no longer on poetic dreams and personal aspirations, but on a systematic study of immediate possibilities disclosed by scientific and historical investigation. It is a branch of Applied Sociology which, after a century of cultivation in France, is gaining its first notable exponent amongst the English-speaking peoples, in Mr. H. G. Wells.

VIII

IT is the boast of philosophers that they are the masters of all intellectual methods and slaves of none. If this were universally and literally true, there would be no need to look for the formalist type in the philosophical group, for none would be found. But there are few of us whose circle of acquaintance is so narrow as not to have met the unphilosophical philosopher. He may be seen flourishing in any well-endowed University. In academic seclusion, he is recognised by an unusual tranquillity of mind, by the superiority of his culture, by the reality of his convictions, or at least by his convictions about reality. Faced with the problems of practical life, he displays the full complement of vacillation and prejudice which, according to Novalis, it is the chief object of philosophy to expel. Equipped with a smattering of positive knowledge and a first-rate classical education, he demonstrates the existence (or the non-existence) of God, Freedom, and Immortality, in a treatise of consummate dialectical skill and prodigious learning. Sociologically, the type is a

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product of endowed Schools of Philosophy,—though that is not to deny other modes of generation or other products to these schools. Psychologically, the type is the resultant and victim of a highly specialised occupational methodology. The dialectical method is a powerful instrument of research in the hands of a master. In the hands of a bungler, it is a weapon, at worst murderous, at best suicidal. The ensuing tragedy is the sacrifice of an individual in the development of a psychological process socially useful. The mere dialectician is, in short, a peculiar victim of philosophical formalism.

To apply to the opposite type of philosopher the designation "idealist" is apt to be particularly misleading, because that word is already appropriated as a technical characterisation by a particular school of intellectual thought. The reference here, however, is to personality and not to intellectual postulates or methods. The psychological type here characterised as a philosophical "idealist," is very much what popular instinct recognises as the wise man or sage,—the man whose life and conduct attest the sincerity of his communion with the all-pervading mystery of the universe. From Socrates to Spencer, the history of Philosophy yields copious illustration of the sage. And the lesson afforded by the study of their lives is that, given a tolerable ancestry and the experience of an honest job, then a man may hope by the pursuit of philosophy to achieve the Platonic ideal of "bringing forth not images of beauty but realities," and thus become "the Friend of God."

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The case of Spinoza, the lens-polisher, is particularly instructive in respect of the present argument, because of its immediate bearing on the evolution of Religion. Philosophy has so often served to mediate between Science and History on the one hand, and Religion on the other, that we may consider that office to be a large part of the essential and characteristic function of the philosophical group. The permanent exhortation of the Philosopher to the Priest is, in the phrase of Diderot, "Enlargissez Dieu!" A not dissimilar idea was behind the words of Leibnitz, when he said that he only studied science and history in order that he might speak with authority in Philosophy and Religion. It means to say that the Spiritual Ideal of the Religious Group must be expanded in harmony with the growth of verified knowledge, or it will fall away from its state of holiness and become partial and fragmentary, dispersive and particularist. The priesthood, as the group traditionally organised for the guardianship of community spiritual interests, is deeply concerned with Science and History, for what are Science and History, as represented by the Idealists of the two groups, but phases and manifestations of human spirituality? It is here that, in his mediatory office, the philosopher may and should intervene, testing and refining the spiritual innovations offered by Science and History (and by Literature and Art also) for incorporation within the scheme of religious ideals.

It was this service which, in the name of philosophy, Spinoza offered the churches of the day. What he practically said to the churches of his day was just

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the counsel of Diderot, as of every other "idealist" philosopher, but it was accompanied by a detailed prescription for carrying it out.¹ He not only de-

¹ The gist of his teaching — his conception of idealism and its methodology — is stated in the following extract from that inspiring autobiographical fragment, the unfinished "Essay on the Improvement of the Mind," trans. Elwes, II. pp. 6 and 7: "I will here only briefly state what I mean by true good, and also what is the nature of the highest good. In order that this may be rightly understood, we must bear in mind that the terms good and evil are only applied relatively, so that the same thing may be called both good and bad, according to the relations in view, in the same way as it may be called perfect or imperfect. Nothing regarded in its own nature can be called perfect or imperfect; especially when we are aware that all things which come to pass, come to pass according to the eternal order and fixed laws of nature. However, human weakness cannot attain to this order in its own thoughts, but meanwhile man conceives a human character much more stable than his own, and sees that there is no reason why he should not himself acquire such a character. Thus he is led to seek for means which will bring him to this pitch of perfection, and calls everything which will serve as such means a true good. The chief good is that he should arrive, together with other individuals if possible, at the possession of the aforesaid character. What that character is we shall show in due time, namely, that it is the knowledge of the union existing between the mind and the whole of nature. This, then, is the end for which I strive, to attain to such a character myself, and to endeavour that many should attain to it with me. In other words, it is part of my happiness to lend a helping hand, that many others may understand even as I do, so that their understanding and desire may entirely agree with my own. In order to bring this about, it is necessary to understand as much of nature as will enable us to attain to the aforesaid character, and also to form a social order such as is most conducive to the attainment of this character by the greatest number with the least difficulty and danger. We must seek the

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clared that the ideals of religion must expand with the growth of scientific and historical studies, but he also offered a new synthesis, harmonising the larger spiritual interests with the contemporary state of scientifically verified experience. And the religious value of his doctrine—in awakening the mind to ideal issues, in lifting it to a high moral plane and sustaining it there—he attested by his own life and conduct. But the churches would have none of it. His own excommunicated him, and the others, whatever their differences, agreed in this, that Spinoza was “a systematic atheist.”

IX

A CENTURY and a half passed, and then there arose within the Protestant church a spiritual descendant of Spinoza, who, more than any other individual, inaugurated that renascence of theological reconstruction, which, after a century of ebb and flow, is now perhaps approaching full tide. The keynote of this renascence—on its positive and constructive side—is Schleiermacher’s arresting utterance that,

assistance of Moral Philosophy and the Theory of Education; further, as health is no insignificant means for attaining our end, we must also include the whole science of Medicine, and, as many difficult things are by contrivance rendered easy, and we can in this way gain much time and convenience, the science of Mechanics must in no way be despised. But, before all things, a means must be devised for improving the understanding, and purifying it, as far as may be at the outset, so that it may apprehend things without error, and in the best possible way.”

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"If our view of the world is defective our notions of Deity will not advance beyond the mythological stage." Here is Spinozism concentrated into a single sentence. The significance of that utterance is great, for its endorsement by the advanced wing of the Theological Group is an implicit invitation to an alliance with the Scientific and Historical Groups.

To talk of alliances is to think of diplomacy. Now diplomacy, being a methodological device of the Politician, is distrusted by the plain man. But there is a way by which diplomacy may be subtly transmuted into an ideal instrument of peaceful negotiation. And that is by reversing the customary usage of the Formalist. Let the diplomatist expound the strength of his own case, and expound the strength of his opponent's. Then if the opponent is an idealist, he will not be outdone in magnanimity. He will promptly discover and reveal unsuspected weaknesses in his own case, and unseen strength in his rival's. At worst, this idealist usage of diplomacy will serve as a touchstone of character. Should it happen that your opponent turns out to be psychologically a formalist, then you are at once informed of the fact. For he will accept your rendering of the situation and immediately propose a treaty on the basis of it. The formalist thus having revealed himself, it is then that the idealist knows he must requisition all the courage and resource of which he is capable, for, assuredly, he has to do with a mortal enemy.

Now this essay, professing to be written from the point of view of other groups (for the most part the scientific and the historical) than the religious, has

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purposely emphasised their defects. And what has been said in recognition of merits has been little more than the admission that there is discoverable in the functional activities of each group, an intrusive religious element — the idealising tendency. And the thesis has been diplomatically maintained that this intrusive religious element is the chief factor in converting group or sectional activity into socialising action. It is the advantage of this sort of diplomacy that while retaining courtesy it does not divorce truth.

X

WHAT space remains will be devoted to a cursory indication of the sociological strength of the religious position. The group which occupationally represents religion is the Priesthood, and the strength of their case, sociologically, lies in their historic contribution to what might be called the Great Psychic List of the Race.

The psychological division of priestly types into formalist and idealist has a sociological significance somewhat different from the corresponding division in the other groups. This derives from the primitiveness of the distinction in the religious group. It is historically and genetically antecedent to the corresponding distinction in the other groups. The harmonisation of ideal and form is, morally viewed, a phase of the relationship of Initiative to Custom, of Individuality to Society, of Variation to Heredity, of Progress to Order. All of these are aspects of a prob-

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lem of the most pressing practical importance, but theoretically beset with difficulties calculated to daunt any investigator but a hero or a fool. The moral aspect of the problem manifestly has the more immediate urgency. Hence it is, that an approximate working solution of this was long ago—more than two thousand years since—reached. This discovery, proclaimed by certain pioneers of, or connected with various religious groups, is the great spiritual achievement of the race. It brought clearly into consciousness, for the first time in history, the possibility of a distinction between formalist and idealist types of personality.

The formalist of religion is the ceremonialist *par excellence*. Now ceremonial consists first in the symbolisation of psychic states and processes, and secondly in the systematisation of the symbolic data, with a view to routine. This definition, it may be objected, confuses ceremonial with art. It is, on the contrary, intended to bring the distinction into prominence. Art also is concerned with the symbolic representation of ideas and emotions, but with a view not to routine but to initiative. Art is primarily concerned with individuality, with initiative, with variation, with progress, and secondarily with socialisation, with custom, with heredity, with order; whereas the contrary is true of ceremonial. The psychic products and processes of human evolution (Language and Literature, Science and the Fine Arts, Industrial aptitude and Religious capacity) have, in their earlier phases at least, been developed mainly by art and transmitted mainly by ceremonial. Art and ceremo-

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nial may, from a certain standpoint, be regarded as sociological structures, corresponding to what psychologically is the function of educability; and educability itself is, as Professor Ray Lankester has well shown, the psychological correlate of what biologically is a surplusage of cerebral development beyond the needs of a material struggle for life. Thus ceremonial, in this large sense, may be considered as the root-stock out of which the several formalisms have grown, by a process in part evolutionary and in part degeneratory. Religious ceremonial largely preserves the primitive characteristics.

In the mental evolution both of the race and of the individual, the distinction between structure and function, between symbol and process, is very slow to rise into consciousness. In fact, the distinction is never complete. Even in the most illuminated minds, a prepossession persists of there being some irreducible element of identity. Witness the perennial rerudescence of the nominalist-realist controversy; and especially the fact that a form of that controversy is at the present moment agitating—of all people in the world—the mathematicians, in respect of the validity of mathematical proof.

The ceremonialism of religion is differentiated—especially from the formalism of science—by two features. In the first place, it frankly recognises and builds upon the inexhaustible element of mystery in symbolism. In the second place, it is packed with survivals characteristic of those early phases of mental evolution when symbol and process, sign and thing signified, were regarded as practically identical.

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It is a mistake to suppose that these psychological survivals of the age of myth and magic, in religious ceremonial, are now necessarily functionless.

The aim of religious ceremonial is the inspiration and maintenance, in the mind of the individual, of a worshipful attitude towards what has received a social sanction of sacredness. In the selection of objects, qualities, relations, and persons to be regarded as sacred, the Priesthood has stood between two difficulties, on the one hand the progressiveness and instability of the culture mind, and on the other, the unprogressiveness and stability of the folk mind. There thus arises the perennial theological problem of combining two apparent incommensurables — “solidarity of salvation” and “a dynamic heaven.” A practical solution by compromise was possible, as long as the priests were the only organised representatives of spiritual interests, and other cultural groups like the philosophical, literary, historical, and scientific had not yet been differentiated, or had only been partially differentiated from the social body.

The Priesthood being the only representatives of cultural interests, it was possible to experimentally maintain an esoteric doctrine, and as its coherence and adaptability became more fully verified, gradually transmit it to the folk-mind by successive modifications of sanctioned creed or formula and ceremonial observance, accompanied by an explanation of these, usually exoteric, yet not without hints and developments of higher meanings. It was under this spiritual régime that there was achieved the advance

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characterised above as the Great Psychic Lift of the Race.

Mr. Stuart Glennie appears to have been the first to call attention to the synchronism and similarity of a series of religious revolutions occurring between the seventh and the fifth century B. C. amongst the more advanced peoples from China to Italy, and associated in historic tradition especially with such names as Isaiah, Pythagoras, Zoroaster, Buddha, Confucius and Laotse.¹

There was then made an organised endeavour to introduce into popular worship those principles which constitute the great spiritual discovery of the race. To call this great moment the advent of the Psychology of Idealism would be to apply to an apparently empirical event of the ancient world, the distinctive nomenclature of modern philosophy, professedly rational. But that anachronism may be pardoned, if it aids in the comprehension of the revolutionary moral change implied in an advance

¹ J. Stuart Glennie, "The New Philosophy of History," 1873, pp. 208-216 and 384-401. It is a pleasure to be able to call attention to this — one of many innovating researches by a writer, the importance and originality of whose work in History and Philosophy are far from being adequately recognised. The particular discovery of Mr. Glennie here instanced would seem to be now generally taken as verified. In reference to the simultaneity of this great moral revolution in different and widely separated civilisations, Professor Rhys Davids in "Buddhist India" (1902), p. 239, asks: "Is there a more stupendous marvel in the whole history of mankind? Does any more suggestive problem await the solution of the historian of human thought?"

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from an External Religion of Custom to an Internal Religion of Conscience. In respect of canons of sanctity, it meant a change in the assessment of sacred values, in the direction of substituting idealist criteria for formalist or ceremonialist criteria.¹

Great advances in mental and moral progress were an obvious and necessary preliminary to any attempts to substitute a religion of internal sanction, based on human idealism, for a religion of external sanction, based on magic and myth. Before any consciously organised endeavour towards such a revolution could be even attempted, several great psychological and sociological discoveries had need to be made. The spiritual truths then empirically reached have been more or less verified by modern scientific investigation. Stated dogmatically and in modern terminology, they may be put as follows: (1) The ultimate criterion of social well-being is to be sought in the psychic life of the individual; (2) The psychic life of the individual ranks in sanctity in proportion to its response to social ideals grown up in History, or created by Art,—religion thus acting repressively and negatively in subordinating the individual to the community, positively and educationally in developing the unique personal aptitudes of the individual

¹ A commonplace example of the surviving practice of assessing sacred values by formalist or ceremonialist criteria is the custom of snobbery. The modern reverence of social rank is in obvious continuity with certain forms of taboo in primitive religion. Whatever its use in early civilisation, its manifestation in contemporary western society is interpretable, psychologically, as a misjudgment of sanctity.

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in the service of the community; (3) Ceremonial is mainly, if not exclusively, methodological in character; (4) Religious ceremonial has, (a) a commemorative function, in preserving social ideals, (b) an initiatory function, in awakening the mind of the individual to the ideals of the race, (c) a routine function, in sustaining conduct at a high social level of thought and conduct; (5) The chief dynamic of creative idealism (that is, of spiritual progress) is (a) in the early stage of life, individual and racial, the sex element, which in later stages of life, individual and racial, develops into emotions and conceptions of, (b) family (the domestication of the individual), and of (c) society and humanity (socialisation of the individual).

The question of the origin of these great truths is complicated by the fact that apparently at about the time the psychic evolution of the race had, in its foremost manifestations, reached these levels, there were beginning to be differentiated other cultural groups than the priestly one. This was particularly so in China, India, and Greece. But the credit of the long and arduous preliminary preparation belongs—in so far as it belongs to any group—to the occupational representatives of religious interests, the Priesthood. A more important question, however, than the origin of the discoveries, is the use that has been made of them in the intervening historical period.

In the movement of civilisation during the past two millenniums and a half, there have been vast migrations of peoples, there have been advancing and reactionary phases of human thought and activity, there have

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been ascent and decline, progress and recession, evolution and degeneration. Everywhere, and at all times, the priestly, like other social groups, has absorbed and reflected the tone and temper of their epoch, their race, their country, their times. Thus there have been many creeds, and many variations of the same creed. But amongst the civilised peoples of the West, there has seldom been a time when the Priests have not proved to be the guardians of the principles of the great primary religious revolution, and indeed sought to apply them, if not always in the spirit, then in the letter.

The parallelism between the history of the race and the life of the individual only holds good psychically up to a certain point. Every individual, as we know with increasing clearness and certainty from the nascent science of Child-Study, is born into a world of myth, magic, and unsocialised desires. It is not every one, it is, in some generations apparently, only a select few, who individually participate in the great psychic lift of the race. If any given society is to be kept free of survivals of the lower pre-revolutionary psychic type, the spiritual revolution of the race must be repeated afresh in each individual life. But to effect that is apparently a task vastly beyond the culture-apparatus of even the best equipped nations. Count, as not only the churches, but as all other culture-institutions have been willing to do, the multitudes of merely ceremonial adherences or even "conversions," and there remain, in the most civilised of nations, still greater multitudes of the unawakened, the unsocialised.

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There is no denying a strong and general tendency for the individual in his personal development to stop far short of the higher spiritual stages of racial evolution. This, looked at from the point of view of origins,—which is the characteristic attitude of Science,—has the appearance of being an arrestment of development, or a reversion to archaic type. Looked at from the point of view of social achievement and human consummation,—which is the characteristic attitude of Religion,—it has the appearance of being a fall from an idealist state. The remedial practical measures dictated by the latter point of view are of the nature of salvation and regeneration. The practical remedial measures that ensue from the former point of view, what are they? The confession has to be made that hitherto Science, in so far as it is biological and human, has been so fully occupied with theoretical questions of generation and degeneration as to have had little time for the practical problems of regeneration. That is doubtless an apology that many scientists would offer. But the truth is, it is, on the part of the Scientists, not *time* that has been wanting, but *inclination*. The idealists in the scientific group have been too few to adequately leaven the collective mass. In many of the social groups, and notably in those of Science and History, the characteristic functional activities of the group have normally been determined by the formalist members. And these formalist members are themselves, from the large psychic standpoint of racial evolution, unawakened, unsocialised types. They are themselves survivals of that archaic spiritual régime which be-

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longs to a Religion of Custom. They remain unresponsive to the higher racial ideals. Nowhere has the need of religious observance been so much repudiated as in the scientific group. And nowhere has the worship of methodological group idols been more devoutly observed.

The formalist or ceremonialist pre-social type is plentifully and at all times found in positions of authority and leadership in every group, not excluding the ecclesiastical. The regeneration of this idolatrous or heathen type (as it might be called) is a social problem greatly complicated by the facility with which the formalist wing of the Priestly Group detaches itself for a temporary alliance with the formalists of any, or all other groups. The ecclesiastical, like other groups, has occasional recourse to that primitive protest of moral inertia,—the stoning of the idealists. And when the formalists of all seven groups combine and join their forces, then is the work of the Devil consummated.

Well-organised formalist aggregates (slightly adulterated with idealism) of selected types for educational purposes are practically what makes up a University; the conservatism familiar in such institutions thus becomes clearly explained. The permanent idealist element in a University is customarily concealed on the remote shelves of the Library. By good luck, the student sometimes finds it; it would of course always find the student, if the University were actively alive. Universities are saved from spiritual sterility (or worse), in part by the occasional presence of an exceptional teacher, but chiefly by the

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bare biological fact that there is a never-failing percentage of undergraduates whom not even degrees and scholarships can keep away from the sources of culture.

If for no other purpose than to meet the always latent, and academically patent, combination of inter-group formalism against the higher spiritual interests, it behoves the idealists of every group to pool their resources, to act in concert, or at least in mutual support when possible, and this not only in ordinary life, but in education, in all its agencies and at all its levels. Happily the difficulties are less than at first sight they seem, in the way of such spiritual alliances, such co-operative campaigns on behalf of the universal interest and stake of mankind in the fortunes of idealism upon this planet and in our time. Occupational jealousy, vested interests, traditional routine, social caste, are all things that count, but they count least where the interests of idealism are concerned. And, moreover, as closer personal observation is made of the idealist wing of each group, it is seen that there is a far larger commingling of individuals than is commonly supposed. Wherever different groups converge in society to a common centre, and in thought to their common source (as they do in the unity of the individual life), there is a freer circulation here of ideals, there also of idealists. The nearer the individual gets to the elemental sources of experience, the wider is the possible range of sympathetic understanding. But some personal participation in the characteristic activities of many and varied groups is necessary for each of us severally, if we seek

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to cultivate sympathetic understanding, at any rate up to the point of creative idealism. Does not this actuality of personal participation in the characteristic life-experience of other, and if possible of every typical group, lie at the very root of the psychology of idealism? How otherwise is it possible to preserve in the life of the individual that all-round functioning of the entire being which Biology insists upon as Health, and Psychology as Sanity, which Philosophy seeks as Synthesis, Ethics as Sympathy, and which Religion, reversing this order and starting from Love, co-ordinates and idealises as Holiness?

Is there not here a basis of common organisation for the meeting and alliance of the idealists of all groups?

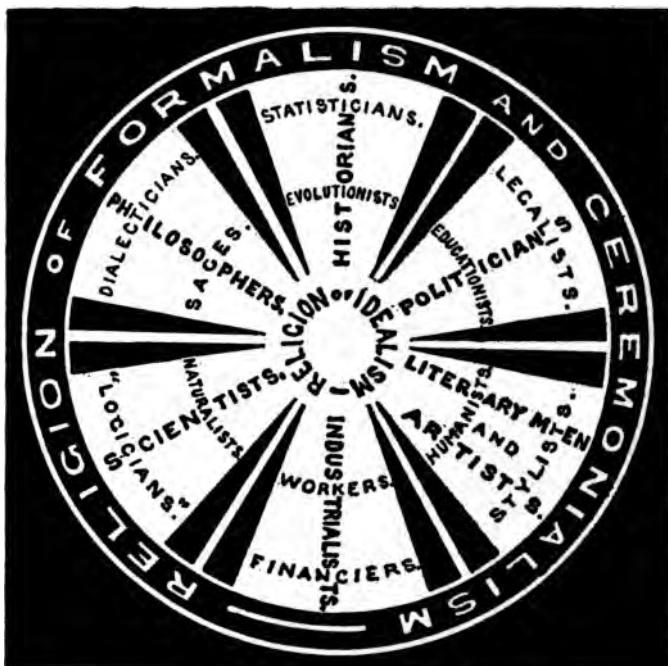
XI

THE whole preceding analysis and criticism of group activities, and the distinction of formal and vital among these, may now be summed up and the suggested sociological approach to a unification of scientific and religious ideals may now also be summarised in the following diagram. This, it will be observed, is a development of that on page 106 with which we set out.

Not only the thesis of the essay, but also its practical application, will be manifest from an inspection of the diagram. The practical policy obviously revealed in this: Let the Religious Idealists, purging themselves of formalism, laying aside desanctified ceremonialism, take the lead in combining the Natu-

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realists, the Workers, the Humanists, the Educationists, the Evolutionists, and the Sages into one joint movement for the awakening of the Young, for the



salving of the Degenerate, for the conversion of the Unregenerate. And the diagram also conspicuously shows in what quarters amongst the adult population the Unregenerate are to be searched for and found.

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It may be pardoned to the writer to say to those who are contemplating a practical step towards a mutual understanding, that a common ground for the discussion of inter-group interests is afforded by the Sociological Society recently formed in London.

VICTOR V. BRANFORD.

5 OLD QUEEN STREET,
WESTMINSTER, S. W.

AN ETHICAL APPROACH

HON. BERTRAND RUSSELL

Author of "The Principles of Mathematics," etc.

TO Dr. Faustus in his study Mephistopheles told the history of the Creation, saying:

"The endless praises of the choirs of angels had begun to grow wearisome ; for, after all, did he not deserve their praise ? Had he not given them endless joy ? Would it not be more amusing to obtain undeserved praise, to be worshipped by beings whom he tortured ? He smiled inwardly, and resolved that the great drama should be performed.

"For countless ages the hot nebula whirled aimlessly through space. At length it began to take shape, the central mass threw off planets, the planets cooled, boiling seas and burning mountains heaved and tossed, from black masses of cloud hot sheets of rain deluged the barely solid crust. And now the first germ of life grew in the depths of the ocean, and developed rapidly in the fructifying warmth into vast forest trees, huge ferns springing from the damp mould, sea monsters breeding, fighting, devouring, and passing away. And from the monsters, as the play unfolded itself, Man was born, with the power of thought, the knowledge of good and evil, and the cruel thirst for worship. And Man saw that all is passing in this mad monstrous world, that all is struggling to snatch, at any cost, a few brief moments of life before Death's inexorable decree.

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And Man said : ‘There is a hidden purpose, could we but fathom it, and the purpose is good ; for we must reverence something, and in the visible world there is nothing worthy of reverence.’ And Man stood aside from the struggle, resolving that God intended harmony to come out of chaos by human efforts. And when he followed the instincts, which God had transmitted to him from his ancestry of beasts of prey, he called it Sin, and asked God to forgive him. But he doubted whether he could be justly forgiven, until he invented a divine Plan by which God’s wrath was to have been appeased. And, seeing the present was bad, he made it yet worse, that thereby the future might be better. And he gave God thanks for the strength that enabled him to forego even the joys that were possible. And God smiled ; and when he saw that man had become perfect in renunciation and worship, he sent another sun through the sky, which crashed into Man’s sun ; and all returned again to nebula.”

“ ‘Yes,’ he murmured, ‘it was a good play, I will have it performed again.’ ”

Such, in outline, but even more purposeless, more void of meaning, is the world which Science presents for our belief. Amid such a world, if anywhere, our ideals henceforward must find a home. That Man is the product of causes which had no prevision of the end they were achieving ; that his origin, his growth, his hopes and fears, his loves and his beliefs, are but the outcome of accidental collocations of atoms ; that no fire, no heroism, no intensity of thought and feeling, can preserve an individual life beyond the grave ; that all the labours of the ages, all the devotion, all the inspiration, all the noonday brightness of human

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genius, are destined to extinction in the vast death of the solar system, and that the whole temple of Man's achievement must inevitably be buried beneath the *débris* of a universe in ruins — all these things, if not quite beyond dispute, are yet so nearly certain, that no philosophy which rejects them can hope to stand. Only within the scaffolding of these truths, only on the firm foundation of unyielding despair, can the soul's habitation henceforth be safely built.

How, in such an alien and inhuman world, can so powerless a creature as Man preserve his aspirations untarnished? A strange mystery it is that Nature, omnipotent but blind, in the revolutions of her secular hurryings through the abysses of space, has brought forth at last a child, subject still to her power, but gifted with sight, with knowledge of good and evil, with the capacity of judging all the works of his unthinking Mother. In spite of Death, the mark and seal of the parental control, Man is yet free, during his brief years, to examine, to criticise, to know, and in imagination to create. To him alone, in the world with which he is acquainted, this freedom belongs; and in this lies his superiority to the resistless forces that control his outward life.

The savage, like ourselves, feels the oppression of his impotence before the powers of Nature; but, having in himself nothing that he respects more than Power, he is willing to prostrate himself before his gods, without inquiring whether they are worthy of his worship. Pathetic and very terrible is the long history of cruelty and torture, of degradation and human sacrifice, endured in the hope of placating the

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jealous gods: surely, the trembling believer thinks, when what is most precious has been freely given, their lust for blood must be appeased, and more will not be required. The religion of Moloch — as such creeds may be generically called — is in essence the cringing submission of the slave, who dare not, even in his heart, allow the thought that his master deserves no adulation. Since the independence of ideals is not yet acknowledged, Power may be freely worshipped, and receives an unlimited respect despite its wanton infliction of pain.

But gradually, as morality grows bolder, the claim of the ideal world begins to be felt; and worship, if it is not to cease, must be given to gods of another kind than those created by the savage. Some, though they feel the demands of the ideal, will still consciously reject them, urging that naked Power is worthy of worship. Such is the attitude inculcated in God's answer to Job out of the whirlwind: the divine power and knowledge are paraded, but of the divine goodness there is no hint. Such, also, is the attitude of those who, in our own day, base their morality upon the struggle for survival, contending that the survivors are necessarily the fittest. But others, not content with an answer so repugnant to the moral sense, will adopt the position which we have become accustomed to regard as specially religious, maintaining that, in some hidden manner, the world of fact is really harmonious with the world of ideals. Thus Man creates God, all-powerful and all-good, the mystic unity of what is and what should be.

But the world of fact, after all, is not good; and, in

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submitting our judgment to it, there is an element of slavishness, from which our thoughts must be purged. For in all things it is well to exalt the dignity of Man, by freeing him, as far as possible, from the tyranny of non-human Power. When we have realised that Power is largely bad, that man, with his knowledge of good and evil, is but a helpless atom in a world which has no such knowledge, the choice is again presented to us: Shall we worship Force, or shall we worship Goodness? Shall our God exist and be evil, or shall he be recognised as the creation of our own conscience?

The answer to this question is very momentous, and affects profoundly our whole morality. The worship of Force, to which Carlyle and Nietzsche and the creed of Militarism have accustomed us, is the result of failure to maintain our own ideals against a hostile universe: it is itself a prostrate submission to evil, a sacrifice of our best to Moloch. If strength indeed is to be respected, let us respect rather the strength of those who refuse that false "recognition of facts" which fails to recognise that facts are often bad. Let us admit that, in the world we know, there are many things that would be better otherwise, and that the ideals to which we do and must adhere are not realised in the realm of matter. Let us preserve our respect for truth, for beauty, for the ideal of perfection which life does not permit us to attain, though none of those things meet with the approval of the unconscious universe. If power is bad, as it seems to be, let us reject it from our hearts. In this lies Man's true freedom: in determination to worship

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only the God created by our own love of the good, to respect only the heaven which inspires the insight of our best moments. In action, in desire, we must submit perpetually to the tyranny of outside forces; but in thought, in aspiration, we are free, free from our fellow-men, free from the petty planet on which our bodies impotently crawl, free even, while we live, from the tyranny of death. Let us learn, then, that energy of faith which enables us to live constantly in the vision of the good; and let us descend, in action, into the world of fact, with that vision always before us.

When first the opposition of fact and ideal grows fully visible, a spirit of fiery revolt, of fierce hatred of the gods, seems necessary to the assertion of freedom. To defy with Promethean constancy a hostile universe, to keep its evil always in view, always actively hated, to refuse no pain that the malice of Power can invent, appears to be the duty of all who will not bow before the inevitable. But indignation is still a bondage, for it compels our thoughts to be occupied with an evil world; and in the fierceness of desire from which rebellion springs, there is a kind of self-assertion which it is necessary for the wise to overcome. Indignation is a submission of our thoughts, but not of our desires; the Stoic freedom in which wisdom consists is found in the submission of our desires, but not of our thoughts. From the submission of our desires springs the virtue of resignation; from the freedom of our thoughts springs the whole world of art and philosophy, and the vision of beauty by which, at last, we half reconquer the reluctant world. But the vision

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of beauty is possible only to unfettered contemplation, to thoughts not weighted by the load of eager wishes ; and thus Freedom comes only to those who no longer ask of life that it shall yield them any of those personal goods that are subject to the mutations of Time.

Although the necessity of renunciation is evidence of the existence of evil, yet Christianity, in preaching it, has shown a wisdom exceeding that of the Promethean philosophy of rebellion. It must be admitted that, of the things we desire, some, though they prove impossible, are yet real goods ; others, however, as ardently longed for, do not form part of a fully purified ideal. The belief that what must be renounced is bad, though sometimes false, is far less often false than untamed passion supposes ; and the creed of religion, by providing a reason for proving that it is never false, has been the means of purifying our hopes by the discovery of many austere and priceless truths.

But there is in resignation a further good element : even real goods, when they are unattainable, ought not to be fretfully desired. To every man comes, sooner or later, the great renunciation. For the young, there is nothing unattainable ; a good thing, desired with the whole force of a passionate will, and yet impossible, is to them not credible. Yet, by death, by illness, by poverty, or by the voice of duty, we must learn, each one of us, that the world was not made for us, and that, however beautiful may be the things we crave, Fate may nevertheless forbid them. It is the part of courage, when misfortune comes, to

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bear without repining the ruin of our hopes, to turn away our thoughts from vain regrets. This degree of submission to Power is not only just and right: it is the very gate of wisdom.

But passive renunciation is not the whole of wisdom; for not by renunciation alone can we build a temple for the worship of our own ideals. Haunting foreshadowings of the temple appear in the realm of imagination, in music, in architecture, in the untroubled kingdom of reason, and in the golden sunset magic of limpid lyrics, where beauty shines and glows, remote from the touch of sorrow, remote from the fear of change, remote from the failures and disenchantments of the world of fact. In the contemplation of these things the vision of heaven will shape itself in our hearts, giving at once a touchstone to judge the world about us, and an inspiration by which to fashion to our needs whatever is not incapable of serving as a stone in the sacred shrine. At times of such inspiration we seem to hear the strange, deep music of an invisible sea, beating ceaselessly upon an unknown shore. Could we but stand on that shore, we feel, another vision of life might be ours, wider, freer, than the narrow valley in which our private life is imprisoned.

Except for those rare spirits that are born without sin, there is a cavern of darkness to be traversed before that ocean can be seen. The gate of the cavern is despair, and its floor is paved with the grave-stones of abandoned hopes. There Self must die; there the eagerness, the greed, of untamed desire must be slain, for only so can the soul be freed from

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the empire of Fate. But out of the cavern the Gate of Renunciation leads again to the daylight of wisdom, by whose radiance a new insight, a new joy, a new tenderness, shine forth to gladden the pilgrim's heart.

When, without the bitterness of impotent rebellion, we have learnt both to resign ourselves to the outward rule of Fate, and to recognise that the non-human world is unworthy of our worship, it becomes possible at last so to transform and re-fashion the unconscious universe, so to transmute it in the crucible of imagination, that a new image of shining gold replaces the old idol of clay. In all the multiform facts of the world—in the visual shapes of trees and mountains and clouds, in the events of the life of man, even in the very omnipotence of Death—the insight of creative idealism can find the reflection of a beauty which its own thoughts first made. In this way mind asserts its subtle mastery over the thoughtless forces of nature. The more evil the material with which it deals, the more thwarting to untrained desire, the greater is its achievement in inducing the reluctant rock to yield up its hidden treasures, the prouder its victory in compelling the opposing forces to swell the pageant of its triumph. Of all the arts, Tragedy is the proudest, the most triumphant; for it builds its shining citadel in the very centre of the enemy's country, on the very summit of his highest mountain; from its impregnable watch-towers, his camps and arsenals, his columns and forts, are all revealed; within its walls the free life continues, while the legions of Death and Pain and Despair, and all the servile captains of tyrant Fate, afford the burghers of

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that dauntless city new spectacles of beauty. Happy those sacred ramparts, thrice happy the dwellers on that all-seeing eminence. Honour to those brave warriors who, through countless ages of warfare, have preserved for us the priceless heritage of liberty, and have kept undefiled by sacrilegious invaders the home of the unsubdued.

But the beauty of Tragedy does but make visible a quality which, in more or less obvious shapes, is present always and everywhere in life. In the spectacle of Death, in the endurance of intolerable pain, and in the irrevocability of a vanished past, there is a sacredness, an overpowering awe, a feeling of the vastness, the depth, the inexhaustible mystery of existence, in which, as by some strange marriage of pain, the sufferer is bound to the world by bonds of sorrow. In these moments of insight, we lose all eagerness of temporary desire, all struggling and striving for petty ends, all care for the little trivial things that, to a superficial view, make up the common life of day by day; we see, surrounding the narrow raft illumined by the flickering light of human comradeship, the dark ocean on whose rolling waves we toss for a brief hour; from the great night without a chill blast breaks in upon our refuge; all the loneliness of humanity amid hostile forces is concentrated upon the individual soul, which must struggle alone, with what of courage it can command, against the whole weight of a universe that cares nothing for its hopes and fears. Victory, in this struggle with the powers of darkness, is the true baptism into the glorious company of heroes, the true initiation into

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the overmastering beauty of human existence. From that awful encounter of the soul with the outer world, renunciation, wisdom, and charity are born ; and with their birth a new life begins. Those who have passed through that valley of darkness emerge at last into a country of unearthly beauty, where the air is calm, and the pale sun coldly illumines a frosty landscape ; and there the deep-toned pæan of freedom vibrates in the soul that has conquered fear. To take into the inmost shrine of the soul the irresistible forces whose puppets we seem to be—Death and change, the irrevocability of the past, and the powerlessness of man before the blind hurry of the universe from vanity to vanity—to feel these things and know them is to conquer them.

This is the reason why the Past has such magical power. The beauty of its motionless and silent pictures is like the enchanted purity of late autumn, when the leaves, though one breath would make them fall, still glow against the sky in golden glory. The Past does not change or strive ; like Duncan, after life's fitful fever it sleeps well ; what was eager and grasping, what was petty and transitory, has faded away, the things that were beautiful and eternal shine out of it like stars in the night. Its beauty, to a soul not worthy of it, is unendurable ; but to a soul which has conquered Fate it is the key of religion.

The life of man, viewed outwardly, is but a small thing in comparison with the forces of Nature. The slave is doomed to worship Time and Fate and Death, because they are greater than anything he finds in himself, and because all his thoughts are of things

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which they devour. But, great as they are, to think of them greatly, to feel their passionless splendour, is greater still. And such thought makes us free men; we no longer bow before the inevitable in Oriental subjection, but we absorb it, and make it a part of ourselves. To abandon the struggle for private happiness, to expel all eagerness of temporary desire, to burn with passion for eternal things—this is emancipation, and this is the free man's worship. And this liberation is effected by a contemplation of Fate; for Fate itself is subdued by the mind which leaves nothing to be purged by the purifying fire of Time.

United with his fellow-men by the strongest of all ties, the tie of a common doom, the free man finds that a new vision is with him always, shedding over every daily task the golden light of love. The life of man is a long march through the night, surrounded by invisible foes, tortured by weariness and pain, towards a goal that few can hope to reach, and where none may tarry long. One by one, as they march, our comrades vanish from our sight, seized by the silent orders of omnipotent Death. Very brief is the time in which we can help them, in which their happiness or misery is decided. Be it ours to shed sunshine on their path, to lighten their sorrows by the balm of sympathy, to give them the pure joy of a never-tiring affection, to strengthen failing courage, to instil faith in hours of despair. Let us not weigh in grudging scales their merits and demerits, but let us think only of their need — of the sorrows, the difficulties, perhaps the blindnesses, that make the

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misery of their lives; let us remember that they are fellow-sufferers in the same darkness, actors in the same tragedy with ourselves. And so, when their day is over, when their good and their evil have become eternal by the immortality of the past, be it ours to feel that, where they suffered, where they failed, no deed of ours was the cause; but wherever a spark of the divine fire kindled in their hearts, we were ready with encouragement, with sympathy, with brave words in which high courage glowed.

Brief and powerless is man's life; on him and all his race the slow sure doom falls pitiless and dark. Blind to good and evil, reckless of destruction, omnipotent matter rolls on its relentless way; for Man, condemned to-day to lose his dearest, to-morrow himself to pass through the gate of darkness, it remains only to cherish, ere yet the blow falls, the lofty thoughts that ennable his little day; disdaining the coward terrors of the slave of Fate, to worship at the shrine that his own hands have built; undismayed by the empire of chance, to preserve a mind free from the wanton tyranny that rules his outward life; proudly defiant of the irresistible forces that tolerate, for a moment, his knowledge and his condemnation, to sustain alone, a weary but unyielding Atlas, the world that his own ideals have fashioned despite the trampling march of unconscious power.

BERTRAND RUSSELL.

AN EDUCATIONAL APPROACH— A TECHNICAL APPROACH

PROFESSOR PATRICK GEDDES

University Hall, Edinburgh

I

THE approach to common ideals through education may not at first sight seem the most promising one. Education seems rather to divide us than to unite; yet our own Churchman and Nonconformist exhibit but the mildest domestic differences compared with the fiercer almost revolutionary strife of clerical and anti-clerical education upon the continent. So self-contained these days are the great nations that we may have strongly contrasted movements on opposite sides of a narrow frontier: witness England strengthening her Church schools, while France is suppressing the teaching of her religious orders.

Under such circumstances and in such times, how can the religious and the secular teacher find any common ground without the abandonment of one or other characteristic standpoint? Yet are they not agreed in aim, at least so far as this can be quite generally stated? However each may upbraid the other with self-seeking, and though the cynic may sometimes group the new endowment of research

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with the old search of endowment, still there are gentler moods in which each critic must surely sometimes sympathise with the other as a well-meaning and hard-working professional brother, struggling to communicate to a reluctant generation what seems to him the broadest truth, the deepest beauty, the highest good of which he knows. But within this general agreement our respective interpretations of nature and man may and do differ profoundly; our thought regarding the mystery behind these is no less different; our ideas therefore of the self, of society, and of the meaning and use of life, must therefore differ also. Hence it is not to be wondered at that one school of educationists should desire and strive to overpower and replace the other. To be of any use, then, our Eirenikon must go further and deeper than we have yet done.

Not merely to avoid wounding sentiment at home, nor for the sake of the fresh eye, with its help towards more completely escaping from our own bias, but because of the present sharpness of the contrast of clerical and lay, let us speak for a little of French schools rather than of British ones, and make the acquaintance of one or two of these, as we may so easily do upon a holiday. These might be chosen anywhere, but say for preference in Brittany, where the feud of clerical and anti-clerical has run fiercest. The two types of teacher are at first glance distinguishable enough, in face and bearing as in costume; while the schoolroom of each bears no less distinctly its sacred or secular label.

The state teacher and his friends vigorously sum

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up for us all the criticisms of the Left upon the Right. They remind us of the essential points of the case against the education of the Church, its obscurantism in science, its reaction in practical affairs. Its stand for Ptolemy against Copernicus and Galileo, for Aristotle or at best with Linnæus against Darwin, is vigorously brought up. Still worse is its long maintenance of feudal privilege against modern freedom, its more than lingering sympathies despite all democratic concessions. Most strongly of all is urged the deadening effect upon young intellect of its dogmatic instruction, of its inculcation of authority against reason, the darkening effect of setting sentiment against science. Leaving criticism and passing to construction, our interlocutor concludes with a lucid and persuasive exposition of the need and value of each of the positive sciences, of the claims of practical life and industry, of modern citizenship; and all this with a clearness and force which remind us of Mr. Spencer's "Education."

Repressing some temptation to be satisfied with this as obviously sufficient, we hear the other side. Its fervid restatement of Catholic ideals, its lamentations over the religious indifference of the State and of the times may leave us comparatively cold; and who is not indifferent when compared with the Breton? But our attention becomes more keenly roused by the remark that even if the State schools be at present somewhat superior in scientific information and outfit, their own have the advantage in manners and in morals. More pointed still seems the criticism that the State schools are designed and

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inspired essentially from the standpoint of an inexorable logic, applied and supervised with a relentless uniformity; and that they disregard not simply the general course of history as the Church understands it, but the actual regional conditions, types, and temperaments as even the geographer understands these; so tending to flatten out all that we think and find most characteristic and most admirable in Breton life into a dull and dreary reflection of Parisian uniformity. To this too purely urban and intellectualist education is ably traced a large influence in the depopulation of the village, the too frequent demoralisation of its character, of course with a corresponding depression of agriculture. In fact this indictment of the prevalent State education is, though in different ways, more severe and sweeping than that of the Republican against the Church. And putting the two pleadings side by side, do we not feel that each side largely merits the criticisms made against it by the other? Or looking at both constructively, we see that each has a partial ideal, and in so far a good one.

It is natural to begin with the former, the observation of our neighbours' defects being always easier than the recognition of their virtues. As we ramble on through town after town, village after village, and look about us at the schools of both kinds, does there not grow up the idea not only of their teachers as hard-working, well-intentioned, kindly folk alike, but of their work as being too much a dismal, futile child-imprisonment, singsong of reading-book in the one being, after all, so very much like singsong of

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catechism in the other. Does it really matter very much, though in the one school there be a feeble lithograph of a sacred picture, and in the other an ugly icon of a sacred president? — that the one room be a little more tawdry, the other a little more dreary, if the decoration of both be bad anyhow? Does it matter either to religion or to science whether the children are learning by rote the names of ancient saintly personages for the bishop, or the names of chemical elements for the inspector? Is the bishop — “Monseigneur” of whom the Church schoolmaster speaks with bated breath so very different from “Monsieur l’Inspecteur” who evidently inspires a still deeper if less spiritual dread on the part of his lay rival? For it is plain that neither one teacher nor the other knows that which has given the German professor his dignity, his world-pre-eminent efficiency; his independence, his “Lehrfreiheit,” his freedom from inspection and supervision and criticism by any official authority whatsoever; his responsibility therefore to his peers and to his pupils, but most of all to inward ideals, to truth, progress, and the general weal.

Even the most convinced protestant and liberal of our party, to whom the existence of any monastic vows seems an anachronism of the worst sort, may begin to wonder if it is altogether an advantage to have the very same triple vows now practically imposed by the State. For is poverty so much more desirable or beneficial when externally compelled instead of voluntarily accepted? In the same way celibacy, for the average schoolmistress at least, is practically

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maintained, though no longer from an internal vow; while obedience to hierarchical superiors, as definite as ever it can have been, is admittedly inspired by dread of destitution.

Liberty, Equality, Fraternity, it is true, are written upon the school buildings in letters fair to see; but as the teacher grows older he sees that after each the static full stop, the ironic "*point*," may be added. For liberty is exactly what he is not allowed; equality with his hierarchical superior is not even dreamed of; and fraternity of combination with his fellows is not possible. Nor probably on the whole is that promotion to a larger sphere of usefulness, which is the legitimate ambition of every efficient worker, more easily satisfied in the State schools than in the ecclesiastical ones. For in the Church, promotion is possible from the village up towards Rome; but in the State the promoted come down from Paris. The teacher is growing conscious of his lot; witness the success of "Jean Coste." "We feel a little tired, sometimes," says to me the dean of the leading faculty in one of the greatest of provincial universities, "of always being governed as a conquered country by two million Parisians."

As we go into these matters further we find that the tide of opinion has turned, so they may soon be mending fast. As France has commonly been the first of countries to evolve each new system of temporal and spiritual ideals, or at any rate to express these most clearly, and most rapidly and logically to work them out to their fullest development, even their bitterest end, so she, naturally next experienc-

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ing all their evils, begins earliest or most clearly the reaction against them, and to think of construction anew. Hence, especially during the last decade, it has been coming about that the secular teachers are more and more turning to the education of the spiritual life, as the wide and ever-widening circulation of a paper like the *Bulletin pour l'Action Morale* may show; while it is no less the fact that in social science at least the "clerical" schoolmasters are often thinking their way practically ahead of their Positivist antagonists, much more of our rival political economists, our British or American Spencerians. As instance, witness the books of M. Demolins, himself but a foremost yet partial expositor of the larger influence of Le Play.

So deep and so spreading are these changes among the younger generation in each party that they may have their unseen share in the present intensifications of strife between their older leaders. The "*Principes de '89*," the bureaucracy of the Napoleonic period, are still in power, and seem to stand as sharply contrasted as ever with the old dogmatism of the Ultramontanes; but is it not just because both parties are old, are nearing their end, that they have thus embittered and exasperated each other into open war? Instances of this are not wanting either in political or religious history.

Repressing, then, as far as may be, our national habit of thanking God that we are not as these Frenchmen, let us come back to look with a freshened eye at our own machinery. Until a generation ago, people used to cite as one such awful example of

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French ways the story of some minister of education pulling out his watch and saying: "At this moment every child in France is saying the same lesson." But what else was the aim of our own codes and timetables, only now relaxing? Are we not reminded of the bitter word of Metternich, "When you English become bureaucratic, you become the most mechanical of all"? For who that knows and cares anything for education can look back over British history for the last thirty years and not see as its representative and organising type, in that sense its true "Hero," a certain Robert Lowe, Lord Sherbrooke? But we see him now as having been essentially a tardy French bureaucrat, concretely importing the centralising hierarchy, the examination-machine, the inspectorial steam-roller, although no doubt imparting to all these a due local colour; thus for instance more perfectly adapting Napoleonised France to mammonised England, by help of his characteristic invention of "payment by results." The ingenuity of this principle has never, perhaps, been sufficiently appreciated. It was not merely an ingenious combination of current economics with lay catechism-mongering, but involved a further complexity, that of the incorporation of the formerly solely ecclesiastical crime of simony with the formerly merely domestic crime of baby farming, and then nationalising the whole as a junior state religion. It is true, of course, that this system has lately been transformed, though not yet its moral results; for while the centralisation and hierarchic depression of the general body of the educational profession is still no less thoroughly en-

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sured, the effects of serfdom cannot be cancelled by even the most generous ukase.

What is this whole national education-machine but essentially a new priesthood, with its multitude of working Levites at the bottom, and its well-to-do scribes in their boards and education offices at the top? And to such a neo-ecclesiastical organisation what matters any lay administrative council, be it of school board or county council, since anyhow mainly of amateur lawyers, absorbed and controlled by the letter of their code, and so without having the time, even had they the purpose and knowledge, the sympathy and insight to approach the realities of education at all, or to encourage teachers or children to do so?

Who, then, can seriously deny that the essentials of the characteristic forms of modern education, as yet most in power either abroad or at home — are not deeply akin to those they have been wont to complain of in past religious organisations? Might not this be traced into details, beginning with the grim asceticism, the worse than cloister-like dulness of the gardenless schoolyard cage, the shoving-yard or Hooliganeum, officially termed playground? That the monastic building is the expression of meditative abstraction from all interrupting sense stimulus, while the lay building has only the excuse of a sordid and shortsighted economy, does not surely improve the comparison? Again, in a Jesuit school the director could and did throw himself into the work of shaping the young life towards his ideal, sharpening reason, pointing will, and bringing feeling to the ice-brook's

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temper; but the modern board school headmaster is no longer entrusted with these powers. For a man, who despite State conditions has won his way to such high responsibility, might indeed master his school. So the subconscious self-preserving instinct of his bureaucratic superiors, who, however high officials, are at best but scholastic amateurs, naturally guides them to keep him occupied with clerkly details; so that in many a higher grade school the rector at fifty corresponds precisely to a small child of five kept in, and relieving his solitude by marking X's and O's upon a gridiron of squares upon his ruled exercise book. It is no doubt expedient that this one man should die for these superior people.

One more parallelism, this time of interest to the student of comparative religion, and we have done with this long opening of our subject. It is a remarkable evolution of our State education systems, nothing less than the reappearance of sham oracles. In common with other past faiths which had lost their internal light, their prophetic leading, and had fallen back upon books and codes, upon precedents and castes, an education authority is now accustomed to invoke on due occasions unseen and occult beings; so that when one asks them any question, the reply, be it of polite acquiescence or gentle evasion, of solemn nullity or obscurantist procrastination, as the case may be, is not couched and signed in the ordinary straightforward manner of man to man, as when one receives a communication from the colonial office or the like. It is majestic, oracular, as befits what comes from the occult beings afore-

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said: "My Lords" (Adonaï?) "have considered" this; "My Lords" (Elohim?) "have consulted" (doubtless Urim and Thummim) upon that; "My Lords have decided" (doubtless by the sacred method of lot, perhaps in its modern form of tossing up); and they "have the honour to be"—. How long, O Lord, how long shall these Things be?

Harmless official formalities like so many more? Partly, perhaps. Even useful in a way, since preserving order? Yes — maintaining the feelings which have so long kept school boards and schoolmasters in their respectively lower places. But to us outsiders — scientific men, workers, women of common sense, as to the teachers and even to the intelligent child, it none the less is at best a mode of bluff. But this is at once pretentious and timid — an ugly form of deceit that has now sufficiently had its day.

Of course all this is not to say that an education office, a South Kensington, is a mere den of "budgetivores," as the corresponding French gibe goes, or its individuals mere "ronds de cuir" — mere tops for stools, though some may develop that way. On the contrary we must fully recognise not only good men struggling with their bonds, but a certain hope and possibility in their organisation; which may yet preserve all its usefulness and escape its evils. And if we be asked no longer to criticise merely, but to say how we would construct, the reply is clear — by transformation into the type as yet best represented by the United States Commissioner of Education and his department. For this represents the national educational consciousness and conscience: it is an

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intelligence department at once local, regional, national and world-wide, and hence an agency of incessant and searching comparison and criticism, of diffusion of ideas, of practical impulse, or inspiring idealism also. With its keen criticism, its manifold suggestiveness, without the powers or ambitions of either that administrative or that financial control which characterise the education ministries of Europe, but which are here happily impossible constitutionally, it is thus the best extant type of what a central and national institution for the advancement of education may and should be. Hence our own public interest in a small recent storm between the English Education Office and its Intelligence Department; whatever may have been the minor merits of the case, the two principles above discussed were here in conflict, the Napoleonic and the American, and the immediate victory of the first was thus intelligible enough. So, however, is the possible ultimate victory of the second.

It is not the present question whether the apparatus of educational government — of which education offices have been taken merely as the largest and most prominent type, but to which, of course *mutatis mutandis*, we might add the public schools and the universities — can be transformed or no. The purpose of all this has been to bring out the essential identity in degeneration of educational ideals, whether they set out in modern times from the side of modern science and enlightenment, or in older days from that of religions. Be it in Church schools or in State ones, dry-rot is dry-rot still.

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So far this long discussion has been bringing out that the question before us is not really one of the conventional parties: it is not being solved by them; it is not even being fully seen or treated. Whether the educationist is to wear the ecclesiastical cassock or the academic gown, the every-day business costume, the laboratory jacket, or the workshop apron, is not the real question. That lies deeper; it strips off each garment in turn, it sounds and tests the life below.

I remember a saying attributed to the professor of divinity, which ran through the university like a crack through ice: "You ask me, What is a theologian? There are two sorts of theologians: those who have read the books of other theologians, and those who have had a spiritual experience." The essential, the ideal lies, then, not in the subject, in the faculty, or the profession, the occupation or specialism, not in this religion nor in that science; it is in the inmost self, and in the measure and character of its action and reaction with the vital realities of the subject, whatever that subject be. The eternal ideals may be reached by every road, are open upon it; yet may be lost at every sign-post, despite the would-be plainest lettering, even from one who had himself found the way.

See this poor puzzled British parent, his no less puzzled boy, confused between the choice of "the classical or the modern side;" little matter so long as in either bundle there is so little genuine and unmouldered hay. If it is a choice between parrotting the catechism or the list of chemical elements, Latin

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rules or French ones, Euclid instead of Natural Orders, and the Punic Wars instead of a "period" of English History, there is little wonder that the parent still prefers to accept the older, the classical side, as likely to be the less badly taught of the two, modern though his own interests generally are. Hence largely the reversion, nowadays so common, that of the son of the scientific or practical man, still making Latin verses: it is not a mere timid conformity, a mere ritual of status.

For there is no real difference: "plus ça change, plus c'est la même chose." This so-called science, this chemical analysis or flower-dissecting is still mostly mere spelling, mere parsing under a new name: most of this workshop exercising — too often nowadays fine finishing of wooden surfaces and joints, afterwards useless, and only fit to be burned — is even worse than the old Latin exercises which dulled and sickened and wasted our youth. For since we cannot live by Latin alone, on leaving school we could throw this aside, and still be fresh to learn to work; but when we have done with such workshop exercises, or won half the certificates of South Kensington "art" and "science" we never wish to touch plane or pencil, retort or scalpel again. There has been no one like your "technical educationist" for breaking the spring of industry and art in the young life for good and all: even your botanist cannot more perfectly kill his subject for all concerned.

Happily we are escaping from this period of static analysis, and we are all escaping together. The liv-

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ing scholar who excavates Delphi or Crete, or the naturalist who explores New Guinea, whether he bring us a priceless statue or a passionate grotesque, has here a living experience to offer, and his pupils, nay, his pupils' pupils' pupils, may also vitally share in this. Few can repeat for themselves a Darwin's Voyage, or take part in a Challenger or a Cambridge Expedition; yet every child in Cambridge can find strange monsters in the fen, every kindergarten mistress may find exploring grounds for her children in the nearest garden or park; nay, what child does not instinctively long both for geologic observation and for engineering experience, for a free access and hand in the nearest gutter. What is essential, then, is not the mileage of the voyage, but the mental attitude of the explorer. Gilbert White found Nature in his garden; but the tourist, the globe-trotter, wears the same town-smoked spectacles wherever he goes.

Hence, of course, a great factor in the prevalent reaction. If we are to submit to authority, let us select some authority better worth submitting to than "my Lords": let us return to the Church, the Pope, the Fathers, to Aristotle or Moses. If we are to memorise a catechism at all there may be as much educative result in mastering that of the Westminster Assembly of Divines as all the cram-books in publisherdom. This is a simple point enough; and may well seem not worth labouring; yet it is no mere fighting of extinct creeds.

Where are there more slavish devotees than the candidates for London or Edinburgh examinations?

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Who ever more anxiously or unreflectively have believed in committing almost to memory the words of their text-book or master, and who have oftener told each other that they must assent to its or his particular theories or be "ploughed"? So changing are the times that there seems nowadays to be more independent and speculative thinking among the aspirants to the Scottish ministry, once so strict, than among those of the university faculties of medicine, once and again so comparatively free: at any rate, since Robertson Smith, there has probably been less general ignorance of the results, and even of the methods of scientific research among the students of the older faculty than of the more modern one.

The student of science no less than the teacher may thus look around him in the history and present of his own subject for that dry-rot with which he reproaches the theological world: he may next make a step towards the treatment of it.

Take, for instance, that very science, which of all others should surely seem most difficult of desiccation and mistreatment,—the study of seed and bud and leaf, of flower and fruit, of the garment of earth in all its protean beauty. Yet what science may be made more repellent? and this alike to student and to child; so that the very name of botany stinks in the nostrils of the public, and suggests a mere far-rago of dog-latin labels upon mouldering hay? Yet when we do not forget this in our winter haylofts, called herbaria, museums, laboratories, libraries, it is the goodly pageant of the seasons, the ever-returning drama of the floral year which has suggested alike

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the oldest nature poetry and the latest nature insight ; of this it is that Hesiod and Virgil, Linnaeus and Darwin have each opened a new page of exposition or interpretation. Yet as Virgil became "lines" and Linnaeus an artificial mnemonic, so now we have Darwin's great and luminous thought turned into an all-sufficient justification of every evil in life or deed. Even in recent instruction we have Darwin's foremost paladin, Professor Huxley, stereotyping as the "Elementary Course of Biology," authoritative now for thirty years, not this teaching of his master, nor even the embryology of Von Baer or Spencer, but mainly a questionable reselection from the type-system of Cuvier, the obscurantist of evolutionism. In a word, then, this desiccation of science ever returns. But if so, the investigation of the educational fragility of our own science may usefully occupy us, in the intervals of the more pleasing task of throwing stones at the stained-glass houses of the theologians.

Fixing and freezing forms, we, too, are losing sight of life and function, ere long worshipping idols ; and so our scientific conviction of clarified dogma or body of "laws" all-sufficient for assured salvation from ignorance begins to give place to a poignant consciousness of shortcomings, inefficiency, and even error, with wrong action in consequence, which begins to give us some idea of what the preachers of our boyhood called the confession of backsliding and the conviction of sin. We begin to see that we have no less literally than symbolically made our museums of skeletons, our herbaria, our cabinets of fossils or of microscopic sections, into idols and bur-

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dens, which tend year by year to shut us out from the old openness to living nature, to weigh us down, in turn to fossilise into its past.

But as during the study of letters there have ever been men, even generations, for whom the lexicon ceases to smother the literature and grammar poetry, and when these are seen again in their true place as helps, not substitutes and hindrances; so after each wintry period of our science there comes a new tide of spring. Such a period is again beginning among us. Witness the freshening even of logical and mathematical study and teaching so long stereotyped after schoolman and Alexandrian; witness the newer chemistry, or that marvellous modification of our physical theories which is now in progress; witness new doctrines in medicine and in biology, yet more in psychology, as this rises beyond its strict bondage to brass instruments; and latest, yet perhaps most vitalising of all, that profound renewal of social studies of which current popular discussions are but the advertisement and prologue.

More than in the ponderous stiff-jointed university we see this transformation beginning in the school; even among the dark places of the earth, like the public schools of England, we see here and there some bold and bright initiative — some Abbotsholme rising in its day and generation, as Rugby or Uppingham or Loretto had arisen before, to emphasise its fresh outlook, and force its active example of this and that vitally needed improvement upon a sleepy and reluctant world.

In the larger, freer, keener atmosphere of the

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American schools, such initiatives are less rare to seek. See Stanley Hall and his colleagues and disciples with their child-study; Colonel Parker with his training of teachers; Professor James with his "Talks to Teachers;" Professor Dewey with his industrial recapitulations of race-experience. Fruitful examples of educational reawakening come to us also from the continent; not only from Jena or Paris, but from Madrid to Christiania. Since the days of Rousseau, of Pestalozzi and Fröbel the educational world has had no such general awakening; and this time it cannot leave out John Bull.

While we are on this line of thought the case of the Fröbelians may be peculiarly instructive. For in a single half century we have seen this doctrine in its way through martyrdom to power, yet there too commonly to fossilise into a slavish literalism of elementary gifts, of doggerel rhymes; and these frozen into a wooden ritual, a shallow mysticism—at best an arrested phase of "Naturphilosophie," of the teaching of Oken—mechanically perpetuated by teachers who have often never heard of either the movement or the man.

This bondage, no doubt, the superior minds of the kindergarten have largely or wholly escaped from; and even at its worst, it has doubtless been an improvement upon what it replaced. Yet it is only with the current return of a direct and first-hand nature-study, a more genuine appreciation of productivity in art, and a contact with the reality of handicraft, that the Fröbelians as a body are escaping from the position of an estimable but somewhat supersti-

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tious sect, and are becoming reabsorbed with all that was vital in their master, into the rising current of general education. Thus they die to live more fully; for what is the best university laboratory but a kindergarten of larger growth?

We see, then, how it comes about that at this time everywhere the educationist is again looking around him, warned by the failure of each specialism and specialist; the failure still more of the sham syntheses which as "codes" and "programmes" increasingly imposed upon the past century. He must yet seek for some co-ordinating principle, some master-thought to guide his choice of subjects, his method in education. Where and how shall we seek this? Is not this being found in the common endeavour, more and more consciously beginning among the special workers of every sort, to escape from the preliminary static and analytic treatment of their subject to the kinetic one, the synthetic view? — to see the stream as it moves, no longer content merely to map its plan, or measure its section as something assumed at rest? So while utilising, continuing, revising the whole analytic researches of the past, we have now also to unite and harmonise these towards an ever-growing synthesis — albeit one open to branch forth anew. The past of each scientific specialism has largely necessarily been occupied with the construction of its instruments, and with the isolated manipulation of each. Now we begin to see again more and more clearly the possibility of orchestrating these; and thus create here and there the beginning of a school of educational art. Such schools are already

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beginning, each absorbing into itself all it needs from the present medley of specialisms, and so advancing consciously or unconsciously beyond the dominant German university principle, half true, half deficient in its unlimited but unco-ordinated and fragmentary specialisings — now popularised in this country at all levels, from "Tit-Bits" to its giant rival encyclopædia; for all three are alike the direct and literal descendants and representatives, for their respective sections of the public, of the "Grande Encyclopédie." In their logic and their science, for instance, such schools must transcend even the Hegelian, the Positivist, or the Spencerian pro-synthesis, each too incomplete, too unrelated, too infertile in specialist advance, yet must succeed in uniting the essential qualities of all, and so in losing the characteristic defects of each. Of this true school, this renascent university of the opening future, we may find the fullest prototype in the great schools of early philosophy—Cortona, the Academy, the Lyceum; each seeking to see nature and life as a living whole, each meeting this in some characteristic way, each at once adapted to the times, and yet transcending them.

Such an ideal of organised culture may and does indeed too often seem hopeless alike to the professed philosopher and to the man of science. But is not the latter too much absorbed by his immediate task of spinning or winding this one or that of the many-coloured and absolutely distinct warp-threads of analysis, to see it may be even the possibility, at any rate the actual place and power, of the flying shuttle of synthesis as it weaves the woof? The whole

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movement of modern specialism and division of labour is but this spinning, dyeing, fixing of warp-threads; while the complementary weaving process, always intermittent, and for the past generation too largely arrested, save for a philosopher or a live educationist here and there, is now being increasingly resumed, and will before long be again paramount in the world. But for this the philosopher must no longer be content with throwing his shuttle in sublime metaphor or gesture merely, not even with sketching out on essay paper the pattern he would weave: he must now go forth among men to the concrete task of realising it, and this without missing or breaking a thread.

After all, this movement only tends to complete upon a more educated level the familiar antithesis of the faddist and the man of the world. Intensively educate and encourage your faddist, and he becomes your eminent specialist; extensively educate and develop your man of the world in general interests and sympathies, and he becomes increasingly synthetic; or extend his experience in practical life and he becomes a statesman, at once reconciling and advancing the manifold interests of his working fellows.

Given the preceding criticism of studies, and the advancing co-ordination of the school and university, progress may now be more systematically conceived — the preceding conception of the school being essentially applicable to the university, its various faculties and departments. The freedom of teaching and learning (“Lehrfreiheit und Lernfreiheit”) won

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by German professor and student in the beginning of the nineteenth century, and since extending throughout the higher education of the world, has now widely to diffuse into secondary and primary education. Hence the liberation of the teacher; with a corresponding disappearance of external authority, in fact the resorption of government. And since "Lehrfreiheit" involves "Lernfreiheit," the pupil also, in a degree commonly undreamed, must become responsible for the conduct of his personal education, as determined by the selection of his own ideals. For as honour is found to rise in proportion to responsibility, so intelligence also. It is the teacher with the most personal and spiritual freedom who most fully concedes this to his pupils—say, rather, evokes this.

With this evolution of school as of university, with this disappearance of the mandarin enforcing memorising, reappears the ideal of the teacher proper, that of the thinker inducing thought, the musician music, the spirit spirit—*Poeta poetagens*.

Are we, then, to define the pupil's own development? the student's? It is for him to form his own. The planted and watered seed must ever select for its own needs, and grow toward its own light; must blossom and fruit from within.

By the application and development of such principles and methods, our ideal school of educational art is seen to be capable of definite design and material organisation. Yet no longer by any single authority, or even example, as there is no one ideal style of building, but as many as there are places and needs, materials and architects worthy of the occasion.

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Such schools have characterised every period of educational advance, and are again coming into evidence, and this in almost every country; and each with its own characteristics, influence, and example. Even in apparently commonplace schools teachers of individuality are largely redeeming the situation; while throughout the mass of tradition- or authority-ridden schools, and even among their externally most conformist teachers, the aspiration towards freedom is rarely wholly extinct.

Hence, at every level is needed the euthanasia of external and centralised authority, with the corresponding calling forth of the resources, aptitude, and insight of teachers and parents, and, most of all, of each school and group of children — as students and workers, as playmates and artists, learning and loving — in short, as more and more fully living. *Vivendo discimus.*

The principles we have been pleading for thus hardly agree with the practice either of State schools or Church ones. Yet are they not being accepted by the one, and even claimed by the other? Each has now a full experience of what a dead dogmatic synthesis may be; and each alike, at its best, claims to be seeking a more open and living one. Only to the mere Mandarin of State can the teacher's consequent claim of freedom seem an anarchist dream, as only to the withered bigot heresy. Epictetus and Antoninus, slave and emperor alike, knew that freedom lay in the mind itself; and what more have we been trying to prove than that the "Kingdom of Heaven is within you"? What more to plead for

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than to "suffer the little children"? For the ideal to which the child is dragged or driven is no ideal at all, but only its wooden image at best.

The last of these educational propositions is the same on every level, each scientific man's insistence upon laboratory work in his subject being only his specialist way of proving that we must live the life if we would know the doctrine.

The choice is thus no longer between "classical and modern sides": these we see have too much been but rival death's-heads — there a post-mortem study of a literature, there the corresponding post-mortem of a science. Yet all these dry bases can live, are more than stirring; the current — say rather the incipient — improvement, both of humanist and of naturalist teachings, being at once a resurrection and a re-birth — the renascence of the Renaissance.

Another process in the education of the man of science, as in the scientific growth of the educationalist, is indicated by his attitude to magic and romance. The fairy tales of science are often thus spoken of, and the science of fairy tales has long been an accredited branch of anthropology, but our meaning is more literal still. We are constantly being reminded, but are still too slowly learning, how much old magic and witchcraft was really skilful art, often founded upon subtler science than we lately knew: — who knows whether sometimes subtler than we have yet recovered? The illustration of the rise of hypnotism from a despised quackery to an accredited branch of psychologic science, of medicine, and even of

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educational and moral art, is a familiar case in point, but not the only one. The psychologist is constantly finding that he has himself more to learn as well as more to teach. It is easy, no doubt, for the experimenter to reproduce its elementary process of hypnotism by help of a glistening button or other simplest mechanical device; but when we learn that an ancestor of Charcot's in the fourteenth century was sufficiently eminent as a wizard to be burned with all due formalities, we feel more ready to admit the possibility of ascribing something to individual and hereditary aptitudes and powers. And I take it that many ordinary working-men of science, though like the writer without time or even inclination to take personal part in psychological studies, have come to feel less sceptical of their usefulness, less contemptuous and intolerant towards even their boldest experimentalists or speculators, than I am afraid we did twenty, or even ten years ago. We are at any rate more ready to believe there are still some things in heaven and earth not yet in our philosophy. That recent progress of physical research, of which Röntgen rays or radium ones are, after all, but the most salient and best popularised examples, not by any means the only ones, is widely operating, and must increasingly operate in the education of the man of science from his too common belief that the great generalisations of the permanence and definiteness of matter, and of the conservation and dissipation of energy had practically completed our notion of the physical constitution of the universe, and left only minor investigations to be pursued; while it has justified in principle the specu-

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lative thinking and teaching of profounder physicists, too long suspected of mere mystic or occultist dreaming apart from science altogether. There is here, of course, no justification for the fears or hopes that the existing generalisations of science have been discredited, and that a period of mere alchemist-like speculations has returned. Yet the most advanced physicist and chemist is now once more reviewing the teaching of the old alchemists, as indeed Berthelot did not so long ago: and he may again probably interpret things which formerly seemed absurd or meaningless, again, perhaps, find suggestions toward renewed research. Something similar seems to be the case as regards biological science, as discoveries and speculations such as those of Pasteur or Brown-Séquard, of Roux or Metchnikoff, have shown.

On every line of research we see science thus rising into art and art-magic. The breeder has long been at work, not only experimenting, but succeeding as the literal creator of new varieties, as every cattle show or flower-stall proves. The biologist begins to see yet further; at any rate he seeks not only to penetrate the secrets of heredity but to pierce below these to the deeper secrets of protean transformation. So he may yet understand some of those great lifts in the evolution of life which seem to have taken place in the past, perhaps — who knows — again experimentally produce such. But this is reviving the dream of the transmutation of Life, the fairy tale of Proteus, side by side with the search for the elixirs of its renewal.

It is true that magic is not always favourably viewed

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by religion : some, indeed, contrast these sharply, and so far with truth. For while magic is increasing power over nature, religion sees rather the mystery of nature and shrinks from the boldness which unveils and takes her captive. Yet since our late master of scientific synthesis has given recognition in his system to the mystery of things as his Unknowable, and even his most convinced critics have more or less recognised that the indefinitely expanding sphere and surface of the Known must thereby come into wide and wider contact with the Unknown ; hence there is less ground for this criticism of science from the side of religion. The frank acceptance of every element of applied science as it appears is no longer seriously resisted in the name of religion. In this way one of the oldest quarrels in world-history seems approaching its conclusion ; its rival thesis and antithesis beginning to establish a synthesis, and this an expanding one.

Let us return, then, to the life-magic we were above discussing. In the recent Gifford lectures of Professor William James at Edinburgh, republished as his "Varieties of Religious Experience," he somewhat fluttered the assembled medical and religious orthodoxy of Edinburgh by saying a word for the soul of goodness which appears to lie in faith-healing, Christian Science, and other revivals of primitive Christianity, as of earlier and later magic and superstition ; and he further threw out the pregnant reminder that many great religious uplifts of the past had been preceded by, and associated with, kindred developments of healing. By cleansing also ; witness

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the marvellous detailed parallelism which may be drawn between the antiseptic rituals of Pasteur and Lister, still more of the latest aseptic surgeons, and the old-world purifications, Mosaic or Brahmin. Hence in the every-day education of the young Indian physician in our Edinburgh or London hospitals, there lies not only the immediate application of Western medical science to the lagging Orient, but a coming reinterpretation of Oriental symbolism and ritual, with, it may be, some fresh contribution from this recovered point of view to Western science. It may indeed be no small gain to the immediate future, both of sciences and religions, this rapid coming into maturity of such investigators of old races, yet therefore of new type. For they will combine the specialist scientific training and the practical energy of the Western world with that early familiarity, that matured and critical appreciation of the historic development of the East, which we Westerns lack even to meet its present needs, much more to renew its possibilities.

A young Japanese critic, of whom we shall probably hear more, Mr. Okakura, in his recent " Ideals of the East " holds manifestly a thesis which, stripped of its characteristic national courtesy and reserve, may be expressed broadly to the following effect: You Mediterranean and Baltic peoples, in your outlying peninsula of Asia which you isolate as Europe, in the pride of your recent advances in knowledge and material civilisation, are still accustomed at times to recognise that the deepest and most general statement of ideals which you claim for one of yourselves, apart from the

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religious developments you acknowledge to Asia, is that of the thinker who came nearest to us, alike in time and place and thought: it is Plato's philosophic revelation — the triad of good and beautiful and true. Now without undervaluing your own Greek or Christian art — each eminent in its way — you have for the last generation been learning that it is in Japan that there has been longest and most generally, in many ways also most subtly and most deeply, the sense of Beauty. You begin to learn, too, that it is the Indian mind which longest, most generally, and most profoundly has pursued, like Plato himself, the inward search of Truth, and the contemplation of its light; while you forget for the moment, though you have never historically denied, that it is yet another vast Eastern group of nations, which, woman-like, has specially sought the Good; has best lived out the doctrine of her greatest teacher, with homely industry and practical insight threaded upon the golden rule. It is China, then, which has longest, most generally, and most fully raised the ideals of the artist and of the philosopher into that of the sage, with a resultant harmony of individual virtue and of social good; which, despite elements of temporary arrest or decadence, and still more of disorder — caused largely by your ruthless interference — are still the longest continued and best diffused peace and prosperity, the completest "happiness of the greatest number" which the records of humanity have to show. To the school of China, therefore, go also, as to that of India and of Japan; and when you appreciate her world-preëminent recognition and realisation of the

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Good, you may then also help each of us to complete our Triad, to renew and add to each of its elements.

So far, then, the half-latent thesis of this new sociologist; which must come with some arousing freshness to a generation whose mental images of the East have been too much compounded from the crude presentations of trader and raider, of missionary, military, or official expansionist, of revengeful war-lord or brazen minstrel, each in some varying combination of what he himself appears to the Oriental — “half devil and half child.” After all it is but a restatement of the old saying, “Ex Oriente Lux;” but with its call to a widening of our respect and sympathy it indicates one of the most notable ways in which the scientific man and the religious may anew resume and advance their anthropological and historical education, and with this their recovery of philosophic and moral ideals.

We are ever told that the East is now but the sepulchre of its noble past, and we set our legionaries to watch it as they may; yet who shall say its buried ideal cannot arise, may not even now have arisen? The dream, the resolve of Eastern pilgrimage thus in very deed returns; nor can we fail of reconciling both aims, the religious and the scientific, nor these again with Education, in thus seeking the truth in love; in thus discerning that the meshes of the net of Peter were the parallels and the meridians of a wider world-sweep than we knew.

Wherever man wins power over nature, there is Magic; so, wherever he carries out an ideal into life,

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there is Romance. In the common reactionary criticism of the spread of public libraries, laments over the reading of novels is a stock element. But even from the side of natural and healthy recreation, what better can people do than utilise the principal art-form of their age; from the side of moral education, what could be more desirable than the power of now wholly forgetting our own personal self and cares in one's interest in another's; or again of seeing one's own life and ideals, personal or social, in those of others? But no: he should read the marvels of chemistry, the triumphs and possibilities of engineering; and above all things become acquainted with those dazzling revelations of recent economic science — a science once dismal in working garments, but nowadays scarlet and brazen with military metaphor. For thus he may prepare to play his patriotic part in the approaching, ever-victorious Tariffades by which megalopolitan wealth and imperial greatness are to be assured, and by means of which all our enemies, retaliation duly administered, will thereafter submissively live and labour under our footstool.

Yet if the life be more than meat and the body than raiment, so the eye is more than all these new radiances; even Quantity of Empire to-day may be less than Quality of Race to-morrow. Here then is the vital point of opening science, practical as well as speculative. It is easy to sneer at *Mary Jane* and her "Family Herald," with their simple tales of *Edwin* and *Angelina*; but like the earliest romance and fairy tale, these contain not only deeper essen-

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tial facts of life, but greater and more urgent problems of practical policy than have ever been fairly realised by any modern political party.

Squire and manufacturer have had their day of political prominence; and proconsul and promoter are now having theirs. But are these not bringing out even more fully than did their predecessors that the fundamental questions are beyond them also,—that these are not territorial and administrative, not military, not financial and fiscal, any more than they were merely manufacturing or mercantile; but that they are organic upon one side, racial upon another; and evolutionary or degenerative upon each and all.

Leaving, then, the pleas of art and recreation, we must ask what, in the name of progressive science, biological and sociological alike, is at this moment more needed than the general practical acceptance and scientific development of this standpoint of the novel-reader? Especially is this needed among the great classes indicated above, who take themselves so seriously, yet who, if truth be told, live far more in a dream-world than ever did or can Mary Jane. That the novelist may see nearer the facts of life than the politician is not denied, since it was flashed upon the world by Zola. But this was indeed not once only, but many times, and by many men more than he. Familiar recent examples also may be found in the evolution of writers of our own, like Mr. Wells and Mr. Bernard Shaw, from their former very different thought-worlds, to the popularisation and advance of current biological enquiry, and its application to the problems of human race and breed.

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Here, then, new and strange partnerships are opening; as of romancist and of dramatist with statistician and insurance actuary; each and all preparing to go into practical politics: and whatever conventional Conservative or Liberal, Labour or Irish member may fail to think or say, it is for them either to fit themselves to face such new post-fiscal questions and all they bring with them, or to give way to successors who can.

The organic aspects of this matter are for the biologist; but the psychological and the ethical have always been claimed and as yet mainly treated by the Church; so, following upon the heels of satirists or statisticians and to the support of Wells and Shaw, of Francis Galton and Karl Pearson, will soon be coming not only naturalists of all specialisms from one side, but clergy of all denominations from the other.

Even the approach of these unwonted allies will be largely a common one, and this at all levels — alike beginning with the protest against that physical degeneration, of which we now begin so clearly to know the cause and the cure, in respective adaptation to environment of slum or garden, so that our cities are to scatter and to build anew. In this transformation, then, at once material and moral, biologist and parson will soon practically be working together, without even the time to compare notes as to their speculative differences.

But beyond this a further co-operation begins to come into view. The biologist begins for the first time to understand the cleric — to discern what he

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stands for in the world. In the development of human life there is no mere gentle daily change: there are also great transformations and crises. Birth, childhood, adolescence, youth, maturity, marriage, parenthood, age, and death are not merely organic phases, but psychic phases also; and each with their normal and pathological aspects, their evolutionary and degenerative possibilities.

This being so, as the biologist and sociologist begin to confer on human breed, they must awake to a new interest even in the anthropomorphic ideals of religions, pagan or Christian, and this in unexpected completeness of details. For what are the gods of Hellas but thought-sculptures of each phase of human life at its fairest? And what better could the most anti-theological evolutionist desire for human well-being than some renewal for modern maidenhood of her old-world Messianic hope?

The biologist has been long enough anatomising the individual at every period of his development; but his science is more than a vast post-mortem examination of man and nature. He claims to have learned, to be learning, more of the secrets of evolution than the older arts of medicine, education, of temporal and spiritual government and guidance have yet possessed. But to take part in their renewal to which he begins to aspire he must himself comprehend their general purpose, indeed increasingly share their point of view.

Long indeed he has been accompanying the physician in his attendance upon practically every phase of human development from birth to death; and now

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with the hygienist, both are becoming awake to all the normal ones. Since all are learning that mind and body are more intimately related than we knew, they join company with the mental physician in his studies of defective and morbid minds, and with the educationist in his labours for intellectual development.

So far, however, to the scientific worker, the priest of every denomination seems at least as unrelated to this movement as he can seem to theirs. Yet are we not now ready for a mutual understanding? Recent studies, like those of psychologists and anthropologists upon the moral and religious development of the individual, are preparing him for a fresh understanding of the clerical profession, as that which seeks (successfully or unsuccessfully is not here the question) to aid and guide these developments of the human spirit, for a consideration of which the comparative study of religion, and the biographic analysis of individual experience, are now preparing him.

Here, then, once more the scientific educationist begins to find himself in unexpected general understanding with parson and priest. For he cannot exclude his growing conception of an evolutionist art, which shall increasingly aid and regulate human life. The Socratic ideal of the "birth-helper," the Christian ideal of the Good Shepherd, must thus reappear in our scientific and practical evolutionism. Our opening line of advance plainly shows that those who continue it will be those who recapitulate and continue as fully as they may the personal evolution

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of those who have already so mightily laboured for the psychic lift of the individual and of the race. With both Hellenist and Hebraist, therefore, our modern spiral of evolution is again bringing us into unexpected parallelisms—parallelisms romantic in more than their revivals of the past, parallelisms magical not only in their insight into the present, but their prevision, their control of the opening future.

Enough, then, of these parallelisms between the new ideals of education pleaded for on modern evolutionary grounds, and these old ideals commonly defended for more ancient reasons. There is little danger that any will exaggerate their importance for immediate practical purposes; or expect the evolutionary naturalist to enroll himself under the banner of some historic ecclesiasticism any more than the modern ecclesiastic hastily to transform church into laboratory.

But it is something if as scientific men we come to see in general education, as in each and every special science, that Idea and Form must be harmonised into living Art. Failing this, as another essay in this volume points out, they must freeze into Ceremonialism as dead as any against which we or our predecessors have protested in Church or in State. And further, as science rises into art, and thus not only specialism into practice, but realism into idealism, this scientific idealism gives us a new understanding and sympathy with the past and present idealism of older schools, discerning beneath what may have seemed but dead ceremonial an ever renascent Symbolism.

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Men of science and men of religion, it is true, are far from reconciled. Let them discuss, therefore, frankly and fully; but above all let each keep moving. The problems at issue can seldom be really touched by the self-sufficiency of either the mere logical debater or of the practical man of either party: they need sympathy, insight, and interpretation from the beginning. This realised, the ideal revelations of the past, even their social creations also, no less than the phases of arts and sciences, may again be interpreted in the present, and their vital elements transmitted to the future.

II

THE APPROACH THROUGH TECHNICAL EDUCATION

LASTLY a word of technical education and the approaches it may present to the ideals we are seeking. Yesterday in town I met an old friend, who tells me his son is soon leaving school with classical honours, to win scholarships and glory in like manner at Oxbridge. There in due course he will become a don, and perhaps cultivate the muses with the best; at any rate he can always become an athlete or a library lounger, or an examiner, or coach, or common-room gossip, with the larger mediocrity. Or the boy himself may have views; he can at any rate become a high mandarin, say in the education office or the Indian civil or colonial service.

"And how is your boy, and what is he doing, since he is not at school?" I am asked in turn. "He

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does some lessons at home; and he is learning to be a pretty fair gardener." "Ah! and will that be enough for him by and by?" "Oh, no, not quite!" said I; "when I left him he was making a box." "Ah!" said my friend again, and dropped the conversation, evidently thinking nothing could be made of my surly and paradoxical impracticability.

Yet, to my mind, there are indeed two main pieces of work in a boy's education; and one of these is to garden, and the other is to make boxes. When our boys can do these, and not till then, they have got their essential education for their work in the world: for as all labour, all occupations and professions may be broadly classed as of one type or the other, as either rustic or urban, youths preparing to enter the directive classes may well have some experience of both. If not constructive work of some kind in the country, then constructive work of some sort, direct or indirect in the town, is, let us hope, their destiny: the world is beginning to show symptoms of being a little less tolerant of the amusers, the talkers, and other foremost percentagers upon the passing order. Each does best what he enjoys, and he enjoys best what he has done long, what he did as a child; hence this impulse toward constructive work in childhood; and hence there is a growing minority of educationists who think that this—not the three R's, though we may henceforth take these for granted—may be the most vital endowment with which our young folks can face the world. One cannot always fully predict whether a lad's future fortune and work will lie in town or country; but for health and

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culture both in due proportion are desirable; even in these simple ways a boy may be more seriously preparing for the coming life-work and life-battle than to the conventional may at first sight appear.

The joy of making something with one's hands is much the same for the simple box-maker as for the finer cabinet-maker; and for both as for the artist; the "good job," which expresses the pleasure alike of maker and user, being for ordinary purposes as far as we need get in the definition of Art.

To get the true hand, the true eye, one must get them early. The great masters of the Renaissance, the smaller artists of to-day, how do they differ? Very largely in that the master began his apprenticeship as a boy of twelve or fourteen at most, while the hand and brain centres were still fully adaptable; while we make our contemporaries wait to begin their artistic education until late adolescence or even manhood; that is, until it is physiologically too late to make high skill an organic and subconscious functioning of brain and hand. When by exception, with much industry, they still reach a fair standard, this tends to fall off at middle age, instead of continuing and developing throughout the utmost length of life, like Hokusai or Leonardo or Titian. Of course high skill may never be attained even by our boy-workman, yet has he not a timely and needed schooling in resourcefulness and common sense, which are surely not among the least important qualifications in the world? Box-making develops this as books can never do.

Another great advantage about box-making, be-

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sides in these simple ways helping the young worker to become "one whose hands have made him wise," is the deeper, the truly moral education of it. This is immediate and direct, from the clean fit and the straight-planed surface, and the true right-angle, small and simple ethical elements perhaps, yet enough for the freemason to have developed almost into a religion. But there is also the larger social outlook. I do not here refer to organisation of labour, co-operation, guildry, or the like—I know not how far these are as yet adaptable in education at all; but I would insist upon the simpler immediate sense of social usefulness, with which a youngster makes or shelves his box, to be thereafter useful as bookcase or what-not to some other member of the household, or given away to some remoter purpose. As yet such simple labour has not been made either constructively attractive or socially and morally attractive to the mass either of your working or directing community: they have missed both its artistic and its social pleasures, and thus it is their work is done for pay; and in adult life the pay comes alone, or almost alone, to matter, whereas with the boy's box, it is obvious that its make and its use, its artistic finish and its social application are the essential points; while as to payment or reward this comes only in the form of more wood and tools, and in the encouragement to make more boxes and still better ones.

Some educationists favour payment for school or home work as a means of introduction to the financial order of things, which the children of course must meet; but is not the important thing rather

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to postpone this, at any rate until both the artistic and social pleasures have become instinctive, habitual, organic, through the habit and experience of years?

Here, in passing, a concrete point of domestic detail may be mentioned as quite worthy the attention of home educators, and it may be of school ones; certainly of scientific and moral ones, here specially in view. There are few houses but can do with more shelving, more cupboards and bookcases. These cost money, so one puts off getting them: meantime books accumulate in disorder, papers go astray, and so on. To buy from one's grocer his egg or soap boxes, and to shelve these by cutting up their lids, is to furnish not only an elementary workshop exercise, but a useful article of furniture, and furthermore a lesson in order to boot, which is none the less of scientific value because a practical one. The boxes of course can be shelved in various proportions, with two, three, or four divisions; and when finished, can be used as units, built up into various forms, and screwed together to fit all sorts of places, from the smallest nook or garret space to erections against the largest wall—in fact a bookcase proper. Staining or paint is of course applied with advantage; leather binding can be added along the shelves with clean and neat result: a moulding can be run round the top or base, and a vase or bust put on top. This, in short, with an expenditure of a couple of shillings for a dozen boxes, with a trifle for nails, stain, and varnish, and a very moderate expenditure of time and pains, enables a boy to produce a piece of furniture just as serviceable as things for

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which we may have paid pounds, and in its plain way it may be even a good deal more seemly.

That our boy should make his own bookcases, as well as some for other people, might next be followed into educational issues, like that of the vast importance of the beginning of good book-collections sufficiently early in life. Does not your great bibliophile, your librarian, go back to his childish book-case as his real start in life, just as the naturalist to his first collection of stones or shells, the artist to his first drawing-book with its soldiers and horses, its moo-cows and puff-puffs? Moreover, it is too seldom remembered that the great lesson of "a place for everything, and everything in its place" can only be taught when the place is provided; and this means shelves and pigeonholes, boxes and drawers, far beyond the ordinary resources of a child, even in roomier homes than most. Here, then, is a bit of technical education worth more than the more pretentious customary ones.

Coming now to garden work and its value, much might be said. But those who know its lessons do not need to be told them; those who do not must first learn by experience. Such work over and above lessons leaves too little time for play? Sometimes that is quite true: save for a brief romp between lessons at mid-day, before or after work in the afternoon, there is sometimes no long play time at all in the day. Yet is not the work play while the worker is enjoying it? and even if sometimes it feels a little hard, is there not a time for everything? and so even now and then to work on all day without

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play? Is not that also one of the experiences and needed powers of maturer life? one therefore which it may be well to learn when young? There *is* a time for everything, and a time there must be—an ample time—assuredly, for play. Throw box and spade alike aside; romp, and chase; and hide out of doors; to dance and play, to sing and act within; give plenty of time to each. Now they are contriving and stage-carpentering a play; now utilising all the garden hiding-places; and here is for our young folks an entering into the fruit of their labours, a devising of new ones also. To encourage each of these amusements to be carried out to the full, even at the expense of lessons and of work alike, is the surest way to send them back to work with a new zest. In such genial and natural alternation of work and play is the true, that is the natural, the psychological, time-table; and the experience of our little home school regularly proves it is one which in practice is adaptable enough with reasonable regularity also.

To work constructively, artistically, and sociably, and this in both the rustic and urban world by turns, as circumstances and needs, season and weather, mood or opportunity may settle, for four or even five afternoons in the week, to play and romp or ramble for at least one whole afternoon, to make music and dance at least one evening, all this with the morning routine of lessons, together with personal reading, and the ordinary claims of home life, make up a busy enough week.

What is wanting for the Sunday? Complete free-

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dom from ordinary lessons and labour being of course assumed, may we not touch the much discussed subject of moral and religious education by help of the most vividly didactic elements of the whole Hebrew literature, the Proverbs and the Parables? For what are the Proverbs? What but the homely yet poetic wisdom of the rustic and urban labour, of the every-day domestic economy of the people, yet also of their result in national economy and statesmanship, in personal and national destiny. What are the Parables if not primarily subtler and more spiritualised interpretations of the same homely experience, drawn from the same every-day familiarity with simple and educative toil?

When in the autumn holiday there comes the chance of helping with the stooks, the verse, "He that sleepeth in harvest is a son that causeth shame," may be a lifelong lesson; while "Wisdom hath builded her house" will have a new meaning for the youngsters who have built so much as a summer-house in a corner of the garden, or a Robinson hut under a tree. Though the Proverbs have long been fathered upon the traditionally wisest of kings, we note that he never speaks of learning his wisdom, like other kings, from hunting or its normal development of war, but from planting and building. And is it not worthy of note that our true British Solomon — not the crowned one ironically so called, but him of the advancement of learning — was, as his essays show, one of the master-builders and planters of his own or any day.

It may be said that Solomon's or even Bacon's

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building and planting was upon a very grandiose scale ; but this really matters little : in both cases theirs was the husbandman's lore, the peasant's wisdom, and the Egyptians and the Chaldeans themselves had no more. Let our youngster tug out the coarsest weeds, or weary himself carrying water for his little garden ; he is ready for the ethic of Zoroaster in its high idealism, yet constructive intensity — an agricultural wisdom if ever there was one. It is only after reclaiming the tiniest bit of waste as garden that he is really ready for the greatest of all lessons in the world's geography : that which fills the pupil's imagination from the teacher's own with the mightiest of human tasks ; that of the coming combination under geographer and moralist of statesman, financier, engineer, labourer, forester, peasant, gardener, architect, and singer, which will yet regenerate whole climates and populations ; not only those of the Mediterranean, from Spain to Syria, but from the Sahara to the Gobi desert.

That the Sahara is actually beginning to be reclaimed, to be here a eucalyptus forest and there a vineyard, its sands increasingly jewelled with innumerable date-oases, which spring like fairyland from each new artesian well ; and that the same constructive progress has yet to pass through Arabia and Persia into Central Asia and thence into China far beyond — these are lessons for which your boy-gardener is prepared, — and your boy-gardener alone, as boys are educated at present.

Since many think little of small tasks, let them note that this vast world Eutopia, this reconstruc-

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tion of the ruined East, this mastery of nature, is something impossible to kings or conquerors, but will need the personal toil and co-operation of moralised millions through generations and centuries yet to come. And the only way of preparing these, of disciplining these industrial armies, for this greatest imaginable planetary result, will be to begin with the small tasks within the child's means and strength.

Returning to the question of technical and ethical schooling upon a more familiar plane, do we not see in most of these Parables the very essence of homely experience, of rustic wisdom; and in that of the house foundations, the reflective experience of the urban craftsman as well? That the carpenter of Nazareth had shared both rustic and urban labour as a boy is surely plain. In the education of practical life, then, as in that of thought, our modern section of the long spiral evolution sweeps strangely parallel to that of the past, asunder though these segment-curves may seem.

PATRICK GEDDES.

APPROACHES THROUGH FAITH



A PRESBYTERIAN APPROACH

THE REV. JOHN KELMAN, M.A.

Author of "The Faith of Robert Louis Stevenson," etc.

NO fact is more familiar to the student of history than the long rivalry and conflict between science and religion. Yet it is not, *prima facie*, apparent either that this is a necessary or that it will be a permanent state of matters. On the contrary, one is impressed by the great number of interests, methods, and ideals which they have in common. Each of them aims at the discovery, the unification, and the orderly presentation of human knowledge. Each ultimately rests on faith, inasmuch as each is forced back upon convictions which are beyond the possibility of further analysis or proof. Every one asserts this of religion, but it is not always remembered that it is equally true of science. The reality of an external world, the connection of cause and effect, the reliability of the enquirer's powers of observation and reasoning, are fundamental elements in knowledge of the same kind as the ultimate data of religion. Even the methods of their advance are common to the two, for although the deductive method is usually associated with religion, it is often used by science; and all living religious faith is continually verifying and correcting its beliefs by experience, using just those

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methods of hypothesis and experiment which inductive science uses. Many ideals also—ideals of civilisation, culture, and philanthropy—they hold in common, where either is properly understood.

Their characteristic mood or spirit is the same.¹ It is sometimes imagined that the scientific spirit is proud and masterful, while the religious spirit is one of humility and submission. It might with equal truth be affirmed that science, discovering law, has for its characteristic word obedience, and that religion teaches men to regard themselves as kings unto God. The scientific spirit has been finely described as that of “absolute temper, patience, and gentleness necessary in order to obtain fine results,” but these are the very qualities in which religion recognises the fruits of the Spirit. Both religion and science have transgressed their own rules and suffered for their transgression. If religion has dogmatised beyond knowledge in her impatience to complete her systems, has not science also, in such imaginations as the philosopher’s stone and the elixir of life, “attempted to reach a great law at once, leaping for the top of the ladder”? If credulity still hampers science by the hasty acceptance or arbitrary rejection of new theories, can any system of religion as yet boast that it has quite freed itself from a like credulity?

Yet there are many persons who suppose that the two are essentially antagonistic; that the war be-

¹ For many points in this paragraph the writer gladly acknowledges his indebtedness to a most luminous and suggestive address delivered by Miss Maynard of Westfield College.

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tween them is without quarter and to the death. Mr. Mallock asserts that "the quarrel between Science and Religion is direct and open," and there are many who share his opinion. It must indeed be acknowledged that there is much in the history of the past to confirm such a statement. Century after century each new discoverer was looked upon as a kind of infernal counterpart of Prometheus, stealing the nether fires for the use of mortals; and the Church anticipated with its tortures the vulture of Jove. On the other hand, science has often been irrationally and even violently anti-religious. In our own time, to quote but one instance of the breach, sociology has sometimes despised the philanthropic efforts of the Church, and the Church has ignored and even condemned the work of sociology. The loss has been mutual. Science, losing reverence, has often fallen into the vulgarity of a wholly material utilitarianism; religion, losing usefulness and touch with actual life, has gone a-dreaming.

But the time has come when signs may be seen of a *rapprochement* such as has never been witnessed in the past. It is now forty years since Dr. Martineau wrote: "Science discloses the method of the world, but not its cause: Religion its cause, but not its method; and there is no conflict between them except when either forgets its ignorance of what the other alone can know." During the years since these words were written there has been an increasing recognition of their truth by the most intelligent men on both sides. It is interesting and instructive to lay alongside each other the following two utter-

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ances, published in the present year by professors of Edinburgh University, than whom no fairer or more competent judges could be quoted. Dr. Flint, *emeritus* Professor of Divinity, writes of "that long and deplorable war between superstition and reason which is so often most erroneously represented as the conflict of religion and science, and in which every seeming victory of the former was necessarily a real defeat." Dr. Chiene, Professor of Surgery, writes: "There can be no antagonism between true science and true religion: they clash only when they are false. Their present antagonism is only another word for our ignorance."

We may, indeed, go further than the denial of their antagonism, and the advocacy of their mutual tolerance and appreciation and their alliance in the pursuit of common ideals. All truth is one, and science and religion are at one in the deeper sense of being but different aspects of that same search for truth which all wise and good men accept as a main part of their destined task in life. Believing this to be the case, our aim in the present chapter will be to trace in rough and fragmentary outline the general course of the relations between science and religion in the Presbyterian Church, in order that we may discover the causes of their former misunderstanding and the lines along which we may hope to see them now approach and co-operate. That the field of our enquiry may be at once representative and at the same time sufficiently small and manageable, we may be permitted to confine our attention to the history of the Presbyterian Church in Scotland.

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It may be added that it is no part of the writer's aim to advocate the claims of Presbyterianism against those of any of the other Churches of Christendom. Each Church has its own special advantages and disadvantages in regard to this question, but these do not concern our present purpose. Consequently we shall not stay to count heads, or to attempt any list of Presbyterians living or dead who might be cited as eminent scientists. Every reader who has even a slight knowledge of the subject will be able to recall a number of names very fully sufficient to justify the claim of the Presbyterian Church to a voice in the discussion. In further support of that claim it may be permissible to remind the reader that this Church has from the first given special attention to the education of its ministry, insisting upon a course varying from six to eight years in the study of Arts and Divinity for every student. A further consideration which may render the study of this section of Church History useful to the general discussion is that in the main its outward conditions have been rather moderate than extreme.

Behind John Calvin, the founder of Presbyterianism, there lay much that is of primary significance for our enquiry. It is true that "in mediæval times physical science was neglected, and the physical world itself viewed as a degraded and disorderly thing." Yet even the Scholastic Theology of the so-called "Dark Ages" had done much for science. That conception of unity which is the essential element in science is largely a gift to her from the

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mediæval Church. Prof. T. M. Lindsay, one of the greatest living Presbyterian authorities on Church History, points out that the science of the pagan world was never on a par with its philosophical speculations, and he goes on to say: "The truth seems to be that science requires to build on a foundation supplied by Christianity, and which paganism is unable to furnish, or at least has never yet furnished. Science presupposes and rests on the idea of the oneness and uniformity of the universe, and this idea is, strictly speaking, a Christian conception. Aristotle, the most scientific of the ancients, was unable to conceive the uniformity of nature, or the totality of things, in anything like the sense which these phrases have to modern thinkers. . . . Christianity did not propose to itself the solution or even the statement of scientific problems, but its yearning to get near God enabled it to see deeper into the problem of the basis of science than the whole of pagan thought had been able to do. The Christian doctrine of creation and the Christian doctrine of providence furnish the foundations on which modern science rests." These doctrines, affirming the absolute dependence of all things upon God both for their origin and in their endurance, "gave that basis for the thought of the uniformity of nature which science demands."

The Renaissance and the Reformation added new forces and afforded new scope for the great truth which mediæval Christianity had "kneaded into human thought." Physical science addressed itself to the task of working out the principle of unity

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in connection with its successive discoveries. But apart from all specific problems, the intellectual curiosity of man was awakened, and along with it the demand for liberty of thought.

In tracing, so far as our limits will permit, the relations of science and religion in the history of Presbyterianism, it will be seen that there has been much alienation. Yet no page of history more clearly reveals the fact that that alienation was not due to anything inherent either in religion or in science, but to mistaken conceptions of them entertained by those who represented them, and to adventitious causes arising from the circumstances of the times. And it will be possible to show with equal clearness that beneath the alienation there always lay a deeper unity whose full significance and effect are only now becoming manifest.

John Calvin (1509-1564) does not appear at first sight to have made much contribution to our subject. He was a jurist rather than a scientist, and his youth seems to have been wholly occupied with legal studies. His conflict with Servetus, a Spanish physician of the mystical school of the time, has been quoted as a notable instance of the war between science and religion, and indeed Servetus himself taunted Calvin in Geneva with his want of scientific knowledge. His condemnation of the heretic, judged by whatever standards and seen under whatever light, of course remains an act directly opposed to the scientific spirit. The time was as yet far distant when the right of private judgment could be fully recognised or even rightly understood.

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It must also be remembered that the age of Calvin, and indeed the period after his death for four generations, were such as to concentrate the interest of churchmen rather on questions of government than on theories of knowledge. Government, like all other organisation and machinery, is most in evidence when it is least perfect. During the seventeenth century the British Constitution was finding itself and settling some of its fundamental principles in Church and State. During the sixteenth century, in Calvin's time, the churches of the Reformation were finding and settling theirs. Thus it came to pass that, whatever might have been their aptitudes and their tastes, ecclesiastical leaders then had no course open to them except attention to the burning and immediate questions of government. Calvin's great work was his *Institutes*, a book of Systematic Theology and of Church Government conceived and executed on a colossal scale.

Yet though Calvin's work does not bear directly upon scientific problems, there is that in it which gives it a place of first importance and significance in our present study. "Luther had created, it was left for Calvin to fashion," as the contrast between the two men has been aptly expressed. Calvin found the ideas and forces of the Reformation scattered; he bent his strength to give them unity; and the result was what has been called by one of the ablest of his critics, "a majestic and comprehensive system." His watchword was order, the very master-principle of science. It is this fact which Rudyard Kipling grasps and so forcibly expresses in his

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"McAndrew's Hymn," where the Scotch engineer sings of his engines:—

"Now a' together, hear them lift their lesson — theirs an' mine
Law, Order, Duty an' Restraint, Obedience, Discipline. . .
From coupler-flange to spindle-guide I see Thy Hand, O God —
Predestination in the stride o' yon connectin'-rod.
John Calvin might ha' forged the same — enormous, certain,
slow —
Ay wrought it in the furnace-flame — *my Institutio.*"

Opinions will always differ as to the truth or error of the Calvinistic system, but no fair critic will refuse to admit that it was one of those tremendous attempts at the unification of knowledge which can only be ranked among the greatest, along with such others as Spinoza's, Hegel's, and Herbert Spencer's.

John Knox, Calvin's contemporary and greatest pupil, was a man of wider interests than his master. The juridical bent of Calvin's mind found the work he had to do suitable and congenial; Knox might well have found a lifework which he would have preferred to the task of establishing Presbyterianism in Scotland. What he might have done in the field of science we shall never know. Not very much, perhaps, for the scientific awakening in Great Britain was slow to come, and even Lord Bacon (whose *Novum Organum* was published half a century after Knox's death) was before his time in England. At all events the fact remains that Knox, like Calvin, had his thoughts and energies diverted from other pursuits by the exigencies of Church Government in his times.

The seventeenth century witnessed a great revival

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of science in England. It was the age of Newton. Bacon's work was telling at last, after he was dead. In 1652 the Royal Society was founded. The earlier English Latitudinarians — Falkland, Hales, Chillingworth, Jeremy Taylor, and others — had watched and sympathised with the growing spirit. They, like the Latitudinarians of the Restoration, such as Burnet, Tillotson, and Butler, discarded the authority of the Church and of tradition in favour of that of the Bible as interpreted by human reason, proclaiming in clear language the doctrine of liberty of thought and advocating toleration.

Meanwhile the Scottish Presbyterian divines had other work to do. Before the Restoration they had to carry out through changeful and troubled times the work of Calvin and Knox, both in regard to the doctrine and the discipline of the Church. That they used their power in a manner hostile to scientific advance cannot be denied. Emphasising the sterner aspects of their faith, they exercised a tyrannous supervision not only over the beliefs, but also over the public and private life of the people. The one instance of those persecutions for witchcraft whose cruelties many of them defended, is enough to show the breach between their conception of religion and the scientific spirit. No one who has read George Sinclair's, *Satan's Invisible World Discovered* or Dalzell's *Darker Superstitions of Scotland* can fail to perceive this. The chief service which their times demanded from them was the working out and formulating of a system whose immediate effect was salutary in the main, and which has produced magnificent

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results in the austere strength of Scottish national character. But it would be as vain as it would be unreasonable to look to them for such a share in the progress of science as they would doubtless have taken in another age. There were among them men whose intellectual powers were adequate to high scientific achievements. Andrew Melville was Principal of Glasgow University, where his rare scholarship enabled him to teach an amazing variety of subjects, among which was included Natural History. Boyd and Calderwood were men of vast learning. The names of Rutherford, Gillespie, and Henderson might be added, and many more besides. But they had a special work to do which absorbed all their energies, and kept their interests from ranging over the wider field.

The Restoration was followed by a quarter of a century of war and persecution in Scotland. Sir Walter Scott's picture of the Covenanters in *Old Mortality* is well known and has been often quoted — their "abhorrent condemnation of all elegant studies and innocent exercises, and the envenomed rancour of their political hatred." However much we may regret the one-sidedness of this estimate, and its failure to do justice to some of the tenderest hearts and most gracious spirits that have lived in Scotland, we need not deny that there were much bitterness and narrowness among them, and that one effect of these was rather to widen than to heal the breach between science and religion. But what would you have? When men are oppressed and persecuted they naturally turn their attention to the

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point in hand. When men are fleeing for their lives upon the mountains, or marching in irons to the stake, it would hardly be reasonable to expect from them any considerable contribution to scientific investigation, or even any consuming interest in it.

All this is the more evident when we remember that one result of the general upheaval of traditional beliefs, both scientific and religious, produced by the Renaissance, was a chaos of opinions and a widespread scepticism. When the Restoration suddenly let loose the pent-up forces which Puritanism had held in rigorous suppression, science and scepticism together became the fashion of the day. Charles II was keenly interested in science, especially in Chemistry and Navigation. In his person and in his court the scientific interest was associated with the lowest depth of shameless and cynical immorality. When it was that, and that as the character of their persecutors, which was the form in which science presented itself to the Presbyterians, it is still less wonderful that they looked askance at it.

Thus here again it must be affirmed that it was not anything inherent, but simply the circumstances and conditions of the time, that were responsible for the breach between science and religion. In that age, for these men, the breach was inevitable. And further, here again we see beneath the surface alienation a far more important alliance in the depths. While apparently in opposite camps, yet the principle for which they contended was the same. The Scottish Presbyterians, to quote the words of Principal Rainy, "were afraid of the mass and bishops because

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they were jealous for liberty of thought." No doubt it was a principle which they had not thought out to its conclusions, and which many of them conceived in a very imperfect and one-sided sense. Yet, being a genuine principle of liberty, it had in it the germ of all future emancipation for science as well as for religion. Lecky, after a long and ghastly account of the Presbyterian persecutions for witchcraft, adds, "The Scotch Kirk was the result of a democratic movement, and for some time, almost alone in Europe, it was the unflinching champion of political liberty. It was a Scotchman, Buchanan, who first brought liberal principles into clear relief. It was the Scotch clergy who upheld them with a courage that can hardly be overrated." John Morley writes, "It is not their fanaticism, still less is it their theology, which makes the great Puritan chiefs of England and the stern Covenanters of Scotland so heroic in our sight. It is the fact that they sought truth and ensued it, not thinking of the practicable nor cautiously counting majorities and minorities, but each man pondering and searching so 'as ever in the great Taskmaster's eye.'" If these testimonies are true—if it was for liberty and for truth that they contended—any imperfections in their way of conceiving these may well be forgiven them. To have fought that fight and won it was to have done more for science than to have discovered a new system of Astronomy or to have founded a new school of Logic.

One thing, however, must be said on the other side. It shall be stated in the words of the late Prof. J. S. Candlish. In the passage quoted he is

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referring to Protestant theologians in general, but his words are certainly applicable to many in the Scottish Presbyterian Church. He writes, "The theologians of the seventeenth century . . . failed to apprehend a deeper principle that was implicitly contained in the Reformation movement, viz., that Christian doctrines, instead of preceding Christian life as a necessary means to it, must come after its actual experience. Sound doctrine was regarded as the preliminary condition of spiritual life; and as it had thus to be established apart from the living experience of Christianity in the soul, it must rest on purely external authority. This was found in an extreme and one-sided view of the inspiration of Scripture, as equivalent to verbal or literal dictation, and in an uncritical and indiscriminate use of proof-texts from all portions of Scripture, without due regard to their historical connection and scope. These became to many of the divines of that age very much what the sentences of the fathers and councils had been to the schoolmen; and an undue weight was sometimes allowed even to the avowedly human forms in which Protestant doctrine had been expressed." At a later stage we shall find how largely this tendency, especially as it manifested itself in regard to the Scriptures, is responsible for the misunderstanding of the relations between science and religion in the Presbyterian Church.

Passing to the eighteenth century, the eye is caught at once by the great blaze of the "Illumination" in France, associated with the names of Voltaire and the Encyclopedists. Voltaire, provoked by the spectacle

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of many abuses and hypocrisies, devoted all the talents of a singularly brilliant mind to a crusade against the Christian religion, retaining, however, his belief in a personal God. The later Encyclopedists spent immense learning in the service of Materialism and Atheism. In Britain, Hume, Gibbon, and Tom Paine were conspicuous figures — Hume calmest and most fascinating of sceptics, Gibbon terrible with the deadly cold of his sarcasm, and Paine, the populariser of the ideas of the Revolution, bitterly hostile to Christianity. The inevitable effect of such influences as these was a wide-spread popular impression that science and religion were radically incompatible with one another.

The Scottish Church during this century was stirred by secessions arising out of questions of Church Government, and by great revivals of religion, which have no particular bearing on our present subject. Apart from these, the general tendency was towards such lethargy and conventionality as might naturally be expected to follow the violent history of the preceding century. The accession of William of Orange had secured toleration for Presbyterians, and the legislation of Queen Anne's time had induced slumber. There were, however, many representatives of the Church of Scotland in that century who attained to high eminence as philosophers, historians, mathematicians, and experts in other scientific studies. Some of these, men who though averse to enthusiasm were by no means sceptics, were on terms of friendship with Hume and Gibbon, and interested themselves in the scientific spirit of the time, at the

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risk of being identified by their critics with its infidelity. The contemporary defence of Christianity took the form of "Evidences," intended to prove the necessity for a supernatural revelation. This did good service in its time, but like the infidelity it was written to combat, it was based upon an inadequate conception both of nature and of the supernatural, and it has had little permanent influence on the relations of science and religion.

The tremendous earthquake of the French Revolution shook the civilised world, and set free a multitude of intellectual forces which made themselves felt in all directions during the early years of the nineteenth century. All the sciences were studied with fresh interest, and a rich harvest of results appeared. The Church of Scotland shared in the general awakening, which showed itself at that time along two lines in particular. One of these was the attempt to broaden the theological outlook in various directions, with which such men as John MacLeod Campbell were identified. The other was a great outburst of Evangelical enthusiasm which led to the most varied and far-reaching results. Among these results was the immediate rise and spread of Foreign Mission enterprise, a factor in civilisation destined to play a more important part in the development of science than was at first imagined. Not only in the study of Comparative Religion and the Evolution of Religious Beliefs and Customs, but in such secular sciences as Anthropology and Geography, the missionary work of the Church has done no small service.

A more important and direct alliance between

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science and religion is seen in the new conception of Home Mission work which was another fruit of the evangelical movement. With the publication of Adam Smith's *Wealth of Nations*, Sociology had sprung into its place among the sciences in 1776. The French Revolution had greatly hastened and increased the spread of new social theories and ideals throughout the world. Every living and generous spirit was caught by their enthusiasm, and experiments of all kinds were set on foot. In the Presbyterian Church, the man who did most for the alliance of Sociology with religion was Thomas Chalmers. A man of distinguished scientific attainments, he was for five years professor of mathematics in Saint Andrews, and his *Astronomical Discourses* were famous in their day. His work as a Sociologist has been before the public for three-quarters of a century, and he is still quoted as an authority by experts in that science. Many of his ideas remain in the Home Mission work of the Presbyterian Churches, which at the present time, in spite of all its defects, is showing something of that grasp of principles and that adaptability to new situations which so conspicuously marked him out as a true scientist. Chalmers proved conclusively, and a great record of effective work in the Presbyterian Churches since his day has confirmed it, that in the field of Sociology at least, religion and science need not be kept apart.

All these, however, were but alliances in special departments, and they did not touch the fact of an apparently radical difference. It was the new Geology that brought matters to a crisis. In 1830

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Lyell published his *Principles of Geology*, but long before that date Geology had been demanding periods of time for its operations which were wholly incompatible with the literal acceptance of the Mosaic account of creation in seven days. Chalmers, with characteristic insight, had many years previously said that "the writings of Moses do not fix the antiquity of the globe." On the other hand, of course there were many who clung to their old beliefs, and denounced the new science, while there must have been a very general feeling of perplexity and uneasiness.

At length a school arose which became so popular that it may be regarded as typical of Presbyterian thought in the middle of the nineteenth century. We may call it the School of Reconciliation, for its object was to so explain the Bible record as to do away with the apparent contradictions between that and the ascertained results of science. Hugh Miller may be taken as its representative exponent. Originally a stone-mason in the north of Scotland, he was a man of extraordinary natural gifts and of wide reading. Attracted first of all by the ripple-marks on the bed of a quarry where he was working, the science of Geology became first his relaxation and then his province of expert enquiry. His book on *The Old Red Sand-stone* drew the applause of Mr. Huxley. His most significant doctrine, and that which best represented the views of the Reconciliation School, is that the Book of Genesis is to be read in the same way as Prophecy, *i.e.*, in the light of its accomplishment. "The hieroglyphs that speak of the past are wonderfully easy to harmonise — those for the future are invincibly diffi-

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cult and inexplicable." In his *Testimony of the Rocks* he goes on to apply this principle to Genesis. The six days he takes to be six periods of indefinitely long duration, representative visions of the progress of creation. He adds, "rightly understood, I know not a single truth that militates against the minutest and least prominent of its (Genesis) details."

This system of reconciliations, which clung to the scientific accuracy of the Scripture record and yet interpreted that record so as to make it harmonise with modern discoveries, was as we have stated extremely popular in its day, and it is in some quarters popular yet. It has even been applied to Evolution, and attempts have been made so to interpret the first chapters of Genesis as to make them harmonise with that theory. Hugh Miller, however, held the doctrine of development to be irreconcilable with the dogmas of Christianity, and argued against it in favour of the miracle of creation. When in 1859 the *Origin of Species* appeared, the great majority of Presbyterians considered that its teaching could not possibly be reconciled with the Bible record, and they confidently believed that the doctrine of Evolution would eventually be disproved and set aside. It was of no avail to plead that Evolution must be regarded as but a *method* of creation, and that it did not affect the ultimate question of divine agency, for to the majority of its critics it appeared evident that it was not the method described in Genesis.

It is surprising that so precarious an apologetic should completely have satisfied the minds of so many. Certainly there could be no permanent stability, no

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feeling of intellectual rest, in a faith which was calling for constant readjustment of this sort. No one could tell what a day might bring forth of new scientific discovery which might demand of faith a fresh remodelling of interpretations or force it into *a priori* hostility. A further objection to this method was that it tended rather to strengthen than to diminish the already exaggerated estimate of the moral value of orthodox intellectual opinions, and so to distract men's minds from the sense of the value of truth in itself. This exaggerated moral value, with its background of punishments and rewards supposed to be meted out on the grounds of orthodoxy or heterodoxy, could not fail to bias men's minds and widen the breach. One of the popular advocates of this point of view actually sneered at "the idol" of Truth which clever men were worshipping. Again, it greatly fostered the vicious distinction between faith and reason, when reason was permitted only to deal with questions on which no part of Scripture pronounces, and Scripture was established as a kind of secret court, or Star Chamber, for judging all matters of all kinds which happen to be referred to within the boards of the sacred book. Finally, in those cases where Scripture had to be reinterpreted, another most dangerous principle was introduced. If such reinterpretation be necessary or legitimate, it is evident that Scripture does not mean what to the plain man it seems to say. There is a hidden meaning, symbolical or allegorical, which lies behind the apparent sense of the narrative, and which is intelligible only to the initiated. The more ingenious the reinterpretation is, the further it is re-

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moved from the understanding of the ordinary reader. It is difficult to see what logical stopping-place there is for those who take this view, short of the subtleties of Origen.

All through this history, in spite of casual alliances and fundamental points of agreement, it has been evident that something, mysteriously but effectually, was holding religion and science apart. We have already had broad hints as to what that thing was; it became plain when the battle of the Higher Criticism came to be fought out in Scotland. The situation is thus described by the late Professor Candlish:— “By many the need is felt of more thoroughly carrying out the principles of the Reformation than was done in the succeeding age, so as to place the dogmatic system on a surer basis. . . . By a large number of divines it has been felt to be unsatisfactory to base, as was practically done formerly, the whole system of theology on the one doctrine of the inspiration of Scripture; and a broader foundation, as well as a more living conception, has been sought for it, by recognising as its subject-matter, not merely the sayings of Scripture, but that living Christianity which it is the direct object of the Bible to produce and reveal. This is really a taking up and carrying out more fully of the principles of the Reformation.” These are words of the most far-reaching significance, but it is especially as they concern inspiration that we have to do with them here.

Luther’s doctrine of inspiration was amusingly elastic, and his canons of judgment subjective in the extreme. Calvin’s doctrine, though stricter and more

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articulate, was still broad and free. Afterwards the doctrine grew rigid and the controversies of the sixteenth and seventeenth centuries tended to embitter it. The seat of authority in religion had indeed been shifted from the Church and Tradition, and this had been done on the plea of the spiritual man's right to judge of truth for himself. But that right was immediately handed over to the inspired Scriptures, which became the new seat of authority, and were regarded more and more rigidly as infallible on every subject with which they dealt, a province closed to human reason. Among other results entailed by that a view was this, that every statement in the Bible which refers to the facts of the physical universe must be regarded as uttering the accurate scientific truth upon its subject. As late as the eighteenth century, the Hutchinsonians in England maintained not only that the Bible was infallible on scientific matters, but that it was the only reliable authority on Natural Philosophy. "To Newton's *Principia* they opposed what they called 'Moses' *Principia*.' The former they regarded as thoroughly false, and also as materialistic and atheistic in tendency." While Scottish Presbyterianism never committed itself to any such absurdities, it is significant that President Forbes of Culloden looked upon the Hutchinsonian system with favour.

At length, in the later years of the nineteenth century, the Presbyterian Churches of Scotland faced the question of the inspiration of the Bible. The smoke of that long battle has hardly yet cleared away, and there remain many differences of opinion. There are

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those who still hold to the most sweeping doctrine of the infallibility of Scripture in regard to scientific as to all other truth. Many points in criticism are regarded as open questions by almost every one, and many more are so regarded by large numbers of educated Presbyterians. But one point at least has been conceded by the vast majority, viz., that the Bible is no longer to be viewed as a scientific text-book but as the record of a spiritual revelation. That revelation, which God made of Himself to man, was expressed (as many hold) in various forms of myth, poetry, history, and others. The revelation, which its record shews growing ever clearer and fuller with the growth of the nation's life and thought, is an eternal and divine thing ; the form in which it was expressed is human and temporary. The scientific ideas of any part of the Bible are simply those of the age when that part was written — neither more nor less accurate than the rest of contemporary science. It is this point more than any other which bears upon our subject. The battle between science and Scripture is one thing, the battle between science and religion is a very different thing ; yet half the controversies of the past have arisen solely from confounding these two. Dr. Flint has said that "so long as men's beliefs as to things were regulated not by evidence but by authority, there could be no science." When the scientific authority of Scripture is surrendered, science is set free to work out its own results ; and the doctrine of inspiration, by giving up the claim of the Bible to teach science, has saved its power to teach religion.

At first sight this might appear to be a curtailing

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and narrowing of the field of revelation, but on reflection it is seen to be an immense widening of the field. The facts of science may not be the facts of Genesis, but (to quote the memorable words of Principal Rainy, spoken in the most recent debate on this subject) "the facts are God's facts." So far from discrediting revelation by refusing to regard the science of the Bible as part of it, we strengthen the idea of revelation and honour it. The Bible remains the unique book of the revelation of spiritual knowledge: but the book of Nature, whose pages science turns, is also seen to be a book of revelation. Nay so far as its subject goes, it is, as Dr. Flint has called it, "the primary, universal, and inexhaustible text book of divine revelation."

Through the change which we have been describing it has become possible for us to gather in the harvest of the past. We have seen that when the doctrine of Evolution was first propounded by Darwin, it was generally rejected by Presbyterian Scotsmen, because it could not be harmonised with the creation narratives of Genesis. Now, though it is by no means the case that all Presbyterians accept the doctrine, yet the general tendency is toward accepting it, and it is almost universally allowed by those who are competent to judge, that it is a legitimate hypothesis, to be proved or disproved by scientific evidence alone. The brilliant writings of the late Prof. Henry Drummond have done much to bring about the result that there is a large and increasing number who find in it a friend in disguise—an instance of the truth of Mr. A. J. Balfour's say-

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ing, that "a theological stumbling-block may be a religious aid." To quote Dr. Flint once more—and no Presbyterian writer lives whose words in this connection should carry more weight—"Forty years ago the fear that philosophy, and especially theology, would be ruined by the doctrine of Evolution was widely prevalent. All fear of the kind has now almost vanished, and there are few educated and intelligent persons who do not recognise that what was then regarded as a terrible danger to religion and theology is, and must be, of incalculable value to both." To the majority of thinking men to-day it offers a nobler conception of the divine attributes and methods, and it supplies them with one of the most valuable unifying principles which they possess.

It is evidently hopeless in one short chapter to attempt to deal with anything more than the merest fragment of so large a question. It has seemed wisest to confine our enquiries to that part of the conflict and *rapprochement* with which the Presbyterian Church has been particularly identified. Beyond this there lie vast fields of study on each of which the *rapprochement* must be and is being effected. On all of these Presbyterianism is taking its share along with other Christian Churches, in the general progress of thought. Against Agnosticism, it asserts that the knowledge of spiritual realities is a real department of knowledge, in the strictest sense rational. In this there can be no conflict with science, which also rests upon knowledge which is beyond the sphere of sense-experience, and which may be rightly classed as spiritual. The claim of real knowl-

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edge in the spiritual region is also its answer to Materialism, which appears more and more manifestly to be an obsolete theory of the universe; and whose few remaining exponents, finding themselves left behind, are growing irritable. The relation of the religious belief in prayer and in miracles to the scientific doctrine of law and of the unity of nature and her forces, is a matter which as yet requires to be thought out. The trend of thought concerning these questions is toward a view in which they will be no longer regarded as breaches of natural law, but as cases in which a greater unity reveals itself in the operation of laws of a higher order than those of Physics and Biology. This leads to the consideration of the general relations of mind to matter and the operation of psychical and higher spiritual forces: it is as yet almost a *terra incognita*, but there are many signs that in this region also research will be rewarded by knowledge.

So far as we have gone, the history of the past, viewed by the light in which the newer conception of the Bible has placed it, shows that at the present point in the progress of thought, science and religion are not in the least degree at strife. They need no reconciliation. "The facts are God's facts," and the scientific knowledge of them is God's ever new and wonderful revelation, unfolding itself not in one book, closed two thousand years ago, but in every book written to-day by any honest and competent investigator. Looking forward, we wait for new light, not only without trembling for the faith, but with eager curiosity that we may understand our faith more per-

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fectly. Looking back, along the line of the history of Presbyterianism, we see a long controversy, due mainly to a misunderstanding. But behind and beneath all the controversy, we are proud to recognise in Presbyterian faith the basal principles of all true science—the demand for unity and order, and the assertion of the rights of intellect.

JOHN KELMAN, JUN.

EDINBURGH.

A CHURCH OF ENGLAND APPROACH

THE REV. RONALD BAYNE, M.A.

Editor "Hooker's Laws of Ecclesiastical Polity," etc., Fifth Book

THE phrase, "ideals of science and religion," implies that science as well as religion has ideals. But this implication is a large one. It has been argued by many philosophers that "ideals" is merely the vaguest and most general term to express those things which religion describes definitely and concretely as God, the soul, and salvation. According to this view, if words are used exactly, science can have no ideals. By using the word science goes beyond what is and what she observes and concerns herself with what ought to be. She begins, therefore, to use the faculty of faith, and to usurp the province of religion.

It is necessary to say this at starting because a statement of the ideals of the Church of England, if it is to begin at the beginning, requires a statement of the general philosophical positions involved in that Church's theology. Such a philosophical sketch cannot be attempted in this paper; but it must be premised that neither religion nor science can give any account of themselves, without philosophy; and that, although few men are philosophers, yet all men

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rest their daily work and conduct upon certain broad conceptions of life which become philosophies as soon as they are enquired into and systematised.

It is also necessary to note on the other hand that a scientific man might reject ideals of all sorts as unscientific and tending to confuse and mislead the mind, so that for science as well as for religion a discussion of the significance of ideals should precede the use of the word.

As a matter of fact, however, scientific men as a class have their ideals. In one of Mr. H. G. Wells' stories of the days to come, the doctor of the future explains the scientific point of view to a patient: "We get on with research," he says; "we give advice when people have the sense to ask for it, and we bide our time. . . . We hardly know enough yet to take over the management. . . . Science is young yet. It's got to keep on growing for a few generations. We know enough now to know we don't know enough yet. . . . Some of us have a sort of fancy that in time we may know enough to take over a little more than the ventilation and drains."

The scientific man in this passage aspires to be a priest and a king. He is not content to look upon science as research only. His knowledge is to be power. Mr. Wells indeed does not shrink from criticism of the ideals of management which may obtain when scientific men are kings. Few readers will forget the grim picture of the unskilled labourer, lying drugged and senseless till he is wanted again, which is given us in "The First Men in the Moon." That romance is in the main an effort to imagine a

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purely intellectual civilisation, a civilisation evolved by pure science where there are no emotions to interfere and disturb. Mr. Wells, as in the main a sympathiser with scientific aspirations, may be allowed to criticise them. The religious man must not forget to be thankful first that there are aspirations to criticise. He must be thankful that the scientific man consents to have a scheme of things as they might be and as they are not. By so doing, the man of science becomes own brother to the Christian, however much his scheme of things clashes with that formulated by the religious temperament. Mr. Wells, moreover, in the passage first quoted, is probably wrong in the suggestion that science will take charge of life suddenly. Every bit of clear knowledge gained imposes the responsibility of acting upon that knowledge and inflicts a penalty for its suppression. Science must gain its control as it goes along, and in fact does so gain it. And it is a delusion that only clergymen and religious folk refuse to apply knowledge to life. No man escapes that temptation; least of all men of science. In so far as men of science are in contact with actual life, as doctors, as temperance legislators, as inspectors of factories and guardians of public health, they are tempted to make terms with the world and the flesh, which even when the devil is ignored as illusory, are as strong as ever to prevent the whole truth and nothing but the truth from prevailing among men. It is necessary to the welfare of the world that men of science should have ideals; that they should be eager to apply their knowledge to life; and resolute to build their new Jerusalem.

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But the capacity to acquire knowledge is not the passion to impose it upon an unwilling world. There is a singular passage in Browning's "Christmas Eve," which insists that the worst man upon earth knows more about right or wrong, although he does not apply his knowledge to life, than the best man succeeds in so applying. Man's chief need, it is argued, is a motive to make him use his knowledge; continually that hell gapes for him—the hell of complete knowledge of what there is to do combined with an utter inability to do it. Mr. Wells, for all his sympathy with science, has had his visions of that dolorous place.

Let us now consider this matter of ideals from another side. It is a frequent complaint against the orthodox Christian that he makes one book of the Bible. He is told that it is a library, or collection, or anthology of the literature of the Jews, with no more claim to be considered a book than the "Oratores Attici" or the "Corpus Poetarum Latinorum;" it is, in fact, a more heterogeneous collection than either of these works. The sensible Christian will answer that neither Greece nor Rome made such an anthology as the Bible from their literature; and that while the external form of the books of the Bible is heterogeneous, their aim and spirit overcome differences and stamp one character upon the collection. The Bible describes man as failing to reach the level of righteousness demanded by his conscience, and God as intervening to help man. In the language of orthodox Christianity it is the history of man as the subject of redemption; in the language of the non-

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Christian it is the history of a nation conceived of as the history of the ideals of the nation. Even though our philosophy compels us to reject ideals as illusory, the Bible must always be unique as a witness to their power. Moreover, the fact is plain that neither Greece nor Rome conceived of their history from this point of view, whereas the Bible is in a true sense one book because the Jewish race did so conceive of their history. Moreover, this book was not written by a man, but in sober fact by a nation. That gives the result externally a character of heterogeneity, but makes its internal homogeneity all the more vital and satisfying. The book describes man's effort to establish the kingdom of God ; it insists that God has assisted that effort; and finally crowned it by the life and death in the world of the Son of God. The Bible throughout puts God first. It never conceives of the good in man as apart from God. God is the power which continually is dragging man upward and continually compelling man to realise his true destiny. From this point of view there is no other phenomenon in the world at all like the Bible. That is the accurate fact. When that fact is recognised opinions about it may be divided broadly into three classes. First, we may take up the extreme materialist position that ideals are delusions and therefore noxious, and that even if they have been of service in the past we must, as far as may be, discard them in the future. Second, we may hold that these ideals are nothing but man's projection of himself objectively into the world around him; they come from man himself; man himself makes the

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God who is a Spirit, just as he made the God of wood or stone ; but yet ideals are not noxious ; they are necessary to the progress of the race, and by the help of them man continues to go forward. But, thirdly, we may argue that ideals owe their force entirely to our faith in their reality. If we must give that faith up we must give the ideals up too. We can only drift with the stream of life, we cannot aspire to any control of our course. God made by man can never be the same as God the Maker of man. These ideals which we, metaphorically speaking, throw up into the air, can only fall back upon us ; they cannot draw us upward as a Hand can hold out from above. Such reasoning insists that ideals must be true if they are to lead up and not down, and it makes the value of the ideals of the Bible dependent upon the reality of God and the soul. Theists and Christians belong to this third class.

But the Bible is not a philosophical treatise. The scientific man, if he were true to his own science, would appreciate and approve the fact that the Bible is not a piece of reasoning ; it is an experiment, it is an action. We are asked to accept it first of all as happening. Its character is essentially altered if it can be proved to be historically worthless. This position, indeed, is disputed in unexpected quarters. It has been argued by an influential and able school of religious thought that the historical character of the Bible does not matter. Kant is appealed to as teaching that the practical reason which apprehends and acts upon religious truth is a different faculty from the critical reason which decides what the facts

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of history have been. But this is a disastrous position for the religious man to take up. It is probably impossible for the practical reason to make any judgment which does not involve to some extent the critical reason; and the scientific man will not be encouraged to accept religious teaching by being told that his critical faculty has no relation to it and can pass no judgment upon it. It cannot be a matter of indifference whether or not Jesus was deceived about Himself, or whether or not the disciples were deceived about His resurrection, any more than it can be a matter of indifference whether man made God or God made man. The existence of Christianity as a religion is involved in the point. It is true that no man is a Christian merely because he considers it proved that Jesus rose from the dead; but some such facts which depend for acceptance upon the exercise of our critical faculty, are the bases of all our fuller judgments. Just because the religious man goes beyond the critical reason he can never afford to ignore it. Loyalty to it is the beginning of all loyalty, the foundation of all religion. And to refuse metaphysic is to make "the great refusal," whether the refusal is made in the interests of science or of religion.

This digression which touches hurriedly upon a matter much discussed at present, started from the statement that the Bible is a record of facts. The Old Testament records the effort of a nation to be God's chosen people. The result of the effort was the coming of the Christ, which meant that the effort was transferred from one nation to all

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nations. All nations in the New Testament are invited to accept that view of their duty and destiny which in the Old Testament is put forward as essential to the spiritual welfare of the Jews. But this is to state the case from the purely analytic and critical point of view, which cannot include God in its analysis, except as a magnet of which nothing is known but its attractive power upon man's character. The Christian, using other faculties with his critical reason, believes that the Old Testament records the effort of God as well as the effort of man, and that in the New Testament God's purpose of redemption culminates in Jesus, who is God and Man, and in whom the will of God and the will of Man are united in a perfect service and a perfect freedom. Jesus is the perfect King, and He is also the perfect people.

It is difficult to understand how popular Christianity has been able to persuade itself that the Gospels appeal to the individual only, and require only that he should make his own peace with God through trust in the message and person of Jesus. No one can compare the Pentateuch and the Gospels without perceiving that the teaching of Jesus, following up in this respect the teaching of the prophets, enriches and enlarges the personality of the individual, takes him out of his family clan or nation, and isolates him in a new reality of responsibility. We carelessly say "isolates him," but we mean "creates him," "makes him more." If the individual consents to be isolated and cuts himself off from the clan or corporation that has bred him, his development will stop. He must, on the contrary, continu-

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ally react on his clan, on his station and duties, and thus produce a clan and a kingdom able to breed more highly developed creatures than himself. A candid and intelligent study of the Gospels will admit the large place taken up in the teaching of Jesus by His exposition of the Kingdom. The Kingdom of the heavens or the Kingdom of God and His own relation to this Kingdom,—that is the sum of His message; and He begins His preaching with the announcement of the Kingdom as something which the Jews ought to be ready for; as something which their history, as summarised in the Old Testament, has prepared them for. The Kingdom Jesus proclaims is the familiar theocracy, so feebly realised under David and Josiah, but imagined by the prophets with great depth and beauty of spiritual insight. Jesus recalls the right ideal of this Kingdom, renouncing emphatically the additions and distortions of pride and materialism, but essentially His account of the Kingdom is not new but old,—the final form and fulfilling of the ideals of Moses, David, and the Prophets. What is new in the Gospels is Jesus. And therefore it is only gradually that Jesus can bring forward the subject of His relation to the Kingdom. There is a striking contrast between the challenge of the Kingdom flung down among the Jews as an ideal familiar to their consciences, and the cautious suggestion of Himself as the appointed means by which alone this Kingdom can be realised among men. Indeed the teaching of Jesus about Himself is subordinated to the facts about Himself: His death, His rising again, and the

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coming of the Holy Ghost,—these are the essentials by which we men are enabled to carry forward the purpose of God that His will should be done in earth as in heaven, and earth become, like heaven, God's Kingdom. Jesus by His incarnation, death, and resurrection, gives to the citizen of His Kingdom a motive for service incomparably stronger than any afforded to the Jew of the Old Testament; and Jesus gives more,—He gives the Holy Ghost; He rallies the will of the citizen who enrolls himself in the Kingdom, by the continual gift of grace.

This the Christian believes. And he claims that Jesus Christ has made a difference in the history of the world which can be explained only by the truth of the faith just stated. In the first place the effort to realise the Kingdom of God upon earth was by the coming of Christ transferred at once from Palestine to the whole civilised world. When Jesus was alive the civilised world was controlled by the two races of Rome and Greece. Politically the civilised world was controlled by Rome. That Græco-Roman civilisation represented a high-water mark of human development. It is only quite recently that we have reached again the same point of intellectual and practical vigour. The odds in the first century must have seemed tremendous against a mere barbarian Jew converting to his religion the Athenian and the Roman. But this the Christians did, as their obvious and simple duty, without flinching or faltering. The Roman control of the world became a means for the Christian control of the world. The old theocratic ideal was realised in an empire comprising

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all the leading races of the world, and realised more intimately and thoroughly than it had been realised in the small nation of the Hebrews in Old Testament times. It was realised so thoroughly that the theocratic kingdom in its external framework persisted when the Roman Empire broke up. The Roman Empire handed on to mediæval and modern times a Church which in its outward form realised the idea of a single world-empire more completely than the Roman Empire itself. The Christians of the early centuries had not a number of separate nations to deal with, they had the Roman Empire to deal with; and they succeeded in imposing the Christian religion upon the Roman Empire. That their Kingdom of God was perfect is not contended. It was too big and too concrete a thing to be perfect. Too many minds and peoples and generations co-operated in the work. But it is essential that God's Kingdom be concrete. You begin to make it come when you attack some kingdom-refusing word, like "secular," or "civil," or "political," or "profane," or "state," or "temporal," and annex it in Christ's name. You begin to make it come when you take some piece of human activity, some kind of work or play, in which men act together, and make it, in fact, Christian,—obedient to Christ. Especially do you begin to make it come when you claim for Christ your nation,—the concrete reality which is God's challenge to you to make His Kingdom come. For an individual to accept Christ is one thing; for the nation to which the individual belongs to accept Christ is another. And this is the plain broad

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meaning of the Old Testament which is in the New Testament impressed upon all men, that the individual is not to rest satisfied unless his nation, as well as himself, is striving to be Christian. Such a Christian nation is a Christian Church. By what arrangements this spiritual fact is to be expressed is a matter subordinate to the fundamental principle, to the vital faith, that the nation ought to be a Church—a conscious expression of God's will. It is clear in the New Testament that Jesus condemns and rejects much of the Jewish effort to realise the Kingdom of God, as neither spiritual nor righteous. The Kingdom as Jesus defines it is not to be maintained by force or violence; the desire to serve others is the motive of its rulers; a desire which culminates in the willingness to suffer for others. This desire is inspired by Jesus Himself; it depends upon the surrender of the heart and will to His message of God's love as revealed in Himself. This general exposition of the meaning of the Kingdom must be understood and accepted before we decide the question whether Jesus laid down for His Kingdom any special institutions, such, for instance, as Baptism and the Lord's Supper. These are not mentioned in the Sermon on the Mount. But it is an extraordinary interpretation of the Sermon on the Mount to suppose that it is intended to be practised *in vacuo*. Jesus gives us principles which are to be intruded into every conceivable activity of the human spirit. His disciple is a man bent on bringing this about. To lose this ambition is to lose Christ. It will not be found that the sur-

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render of the soul to Christ can continue if the soul declines citizenship in Christ's Kingdom; and the narrower and more selfish a man's conception of Christ's Kingdom and its claims, the smaller his soul. Christ's Kingdom is not come till everything in human life and society is "ordered" by God's will.

In the sixteenth and seventeenth centuries the Puritan insisted that in the sphere of conduct Christ's teaching was to be followed. But because he conceived art and music to involve evil conduct he set his face against these activities. It is important to understand clearly where the Puritan was right and where he was wrong. He was right in claiming society and politics for Christ. Calvin's attempt to make the Kingdom of God come in Geneva was heroic and splendid, in spite of its mistakes. But such an effort, being most difficult, being indeed the ultimate and only effort demanded from man's spirit, is continually deflected from its true goal by two temptations. The unspiritual weapons of force and expediency are not rejected; the tired and depressed Christian ceases to put away from him methods which seem short cuts at times when his spiritual eyesight is dimmed. Moreover in his desperation he limits the field of his endeavour. When men are seeking amusement and rest the temptation is strong to relax the moral standard. The Puritan in consequence conceives of amusement as essentially indulgence and therefore not to be "ordered" by God's governance, but suppressed altogether. Art and poetry and music he thinks of as pleasure-giving ac-

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tivities. It is easier to abolish them than to regulate them. But this attitude of the Puritan is a refusal to follow Christ. It is just when the task of establishing Christ's Kingdom becomes difficult and delicate that it becomes real and spiritual. The world's refusal to belong to the Kingdom of God has hardly retarded it more than the saint's anxiety to make man's nature small enough for him to reform it easily and quickly. The condemnation of any natural activity of the human spirit—and of course amusement and rest are kinds of activity,—is a blasphemy against God. We have learned chiefly from the writings of John Ruskin to perceive the blasphemy of the Puritan attitude towards poetry, music, and art, but Evangelical Christians have not yet understood with any proper conviction the full extent of the injury done to their efforts to realise Christ's Kingdom by this blasphemy. The injury is just as obvious and deplorable in the maimed Kingdom as in the unreclaimed world.

The Jew was called upon to establish the Kingdom of God in his own nation. The primitive Christian established it in the Roman Empire. The Roman Empire was his nation. The religious and social convulsion which we call broadly the Reformation was in part an effort to bring the mediæval Church into more vital connection with the nations of Europe. A Church which had been a sufficient and suitable organisation to give scope to the establishment of God's Kingdom in a world-empire was in many ways unsuitable for the same task in a company of rival nations, all of them in their beginnings anxious to

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secure their own national life and character. It was not surprising that the mediæval Church should cling to her Empire organisation as a clear fulfilment of the universality of the Kingdom proclaimed by Jesus, and should fail to perceive that in fact the political Empire caused the universal frame in which her institutions were cast, so that when the political empire broke up a new task was set for the Christian to achieve. No honest and sensible student of mediæval times will fail to perceive how truly the mediæval "Empire"-Church was the nursery of the European nationalities. The European nations in their beginnings were moulded and vitalised by the Christian Church to an extent difficult for us to-day to realise adequately. But when the nations were full grown, a new problem began to confront the Christian. It is not easy with the Bible before us to argue that an universal Church and his own soul are all that concerns the Christian. If that universal Church is to be a real thing it must be an aspect of a political reality existing in the world. If there is no "parliament of man," no "federation of the world," there can for the time be no world-church in the concrete sense demanded by Jesus. The Roman Church at present is too old or too young. She has not adapted herself successfully to the political conditions of modern Europe, or admitted the necessity of such an adaptation. The Roman Catholic has no more warrant from Jesus to define and limit the forms of political development among nations than the Puritan has warrant to forbid amusements and discourage art. Both Roman and Puritan have to intro-

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duce the Kingdom of God everywhere,—into all human forms of government—plutocratic, democratic, aristocratic, and monarchical; and into all moods and activities of the human mind. So soon as this general principle is practised, it is found to be in useful accord with the other general principle, that the rulers in God's Kingdom are servants whose rule vitally and finally depends upon the free consent and surrender of the spirit to God's will. There is a sense in which the Christian is to take the world as he finds it when engaged in establishing God's Kingdom. If he refuses, he finds at the last that he has limited and maimed that Kingdom.

In the reign of Elizabeth, the Church of England and the Church of Rome severed their connection with each other as organisations. It is well to bear in mind that spiritual bonds cannot be cut. Mother and daughter remain mother and daughter in spite of renouncings and disinheritings. Any two organisations, which accept honestly the Bible and the Nicene Creed as documents of their faith, will be spiritually akin, however laboriously and elaborately they distinguish themselves in externals. But in Elizabeth's reign the effort to realise God's Kingdom for the English nation was very unanimously by Englishmen taken out of the control of the Roman Church. However we judge daughter and mother, we cannot deny that the daughter's mind was clear. In Elizabeth's reign the Church of England was the English Church. The large majority of laity and clergy acquiesced in the Elizabethan settlement. Unless we place succession in the bishops alone, we shall

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feel that the Church of England has been a continuous organism ever since its first foundation in this country. It is not till Commonwealth times that its claim to be the nation's Church can be reasonably contested. In England to-day it is Nonconformity rather than Roman Catholicism which in the eyes of Englishmen weakens the claim of the Church of England to be the Christian Church of the English people. A body of Englishmen so large in point of numbers, intelligence, and energy, that to cut it out of the English nation maims and alters that nation, stands aside from the old Church of the nation, and refuses to belong to it or to use it. There is therefore no such national Church to-day in England as there was among the Jews in David's time, or even as there was in England in mediæval times. There is no such national Church as there might be! The trouble is that nobody minds. To be the only Church in England rather than to be the English Church satisfies some; to be "free" satisfies others. It is difficult to connect either ideal with the teaching of Jesus about the Kingdom. In Elizabeth's reign men thought differently. The Elizabethan Nonconformist even more passionately than the Conformist desired an English Church. As soon as he could he established his vision of an English Church. We Englishmen to-day have very largely lost this passion for the establishment in our nation of the Church which we can claim to be our national realisation of God's kingdom.

The Nonconformists have undergone a change in their aim and point of view; instead of suffering and

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dying, that their conception of Christ's Kingdom may be established in their nation, they have become contented to suffer that their political disabilities may be removed. The emancipation of spiritual religion from the forms of political life is the modern ideal. The subjugation of the forms of political life to spiritual religion was the ideal of the sixteenth-century Puritan. Can there be any doubt which is the nobler, which is the truer to Christ's teaching? Can a Christian be satisfied with the general impression he gets from a glance at Australia and the United States? That general impression is that the religious bodies are all "free," all severed from any vital connection with political life; and that the state also is "free," free in the sense that religion is less and less any of its concern as a state. That those who claim to be the spiritual descendants of Luther and Calvin and Knox are satisfied with this result is as perplexing as it is discouraging. Our only consolation is that we understand tolerance and do not burn and slay each other as men did in the sixteenth century. But what is the moral value to us of our toleration? It may mean, it very largely does mean, merely that we think more of comfort and less of duty than our forefathers did. Cruelty is a detestable vice; but pain is not the worst evil; and if we have left off burning each other only or mainly because it hurts, we are not therefore stronger or braver. Softness, not holiness, is our achievement. One thing is certain, that by suffering, by patient and magnanimous endurance of persecution and ill-will, Christ's Kingdom is spread.

The Nonconformist vitally and finally leaves the

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English Church when he gives up the ambition to have a national Church. If we had space we might discuss the ethics of the sixteenth-century practice of going into opposition till you could get your own way about the nation's Church. That at all events was the beginning of Nonconformity as we know it to-day. It was at first emphatically Nonconformity within the Church. It was as ardently anxious for a national Church as any conformity itself. There is no doubt that the English Church has suffered, like the Nonconformists, by a lowering of her ideal of dominion; she has confused herself with tales of the wickedness of the Inquisition until she has almost persuaded herself that the Lord Jesus Christ meant nothing particular or concrete or visible by the Kingdom He spoke of. She has ceased to care for and to value her national character as a spiritual responsibility, — a spiritual possibility. The jealousy of the Jew and the Apostle, of the Papist and the Puritan, for the Kingdom of God has become a strange thing to her. This of course has been due mainly to the Nonconformist exodus. Let there be no glossing of the matter. The one sin of the Nonconformist against his national Church is that he leaves her. He brings it about that the Englishman is not born into one Church as he is born into one State. He is born into a competing complex of Kingdoms, into a civil war of religions; and this calamity and misfortune he is asked to regard as a blessing. There are now five or six important and influential Nonconformist Churches in England. Each one began from small beginnings.

Generally some single mind of strong individuality

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has founded the new sect. He has seized upon some truth or aspect of the truth which the Church of his inheritance has obscured or neglected, and to get that truth regarded he has renounced his Mother Church. He has not noticed that this is a declension of ideal. To get one's truth accepted by one's Mother Church, that is the true prophet's mission. That the Church of a nation suffers terribly by losing out of her ranks just the strongest, most independent, most fearless minds, is of course always true. By this time the Nonconformists must have found this out by their own experience. These minds are intended to leaven the mass, not to leave it. No Nonconformist remains a Nonconformist. As soon as his Church is a generation old the great mass of the members belong to it because it is the Church of their inheritance. They belong as conformists. The founder has not evolved a new type of Christian impervious to the temptations of formality and traditionalism. He has merely removed from his own Mother Church by his own impatience and self-will the purifying and strengthening power of his own spiritual insight and force. And when a Church is founded upon an aspect of truth neglected by its Mother Church its inevitable tendency is to magnify its own special truth and to forget as unimportant much of the creed and practice of the older Church. The body of Christ is dismembered. The various parts do not harmonise with each and keep each other in due control. This arm is abnormally muscular; that eye is bright because its fellow is nearly blind; there is no co-ordinating principle, no cohesion.

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The good which each member ought to get from the other members is lost by the common rejection of order and obedience.

In this connection a word must be said on the modern ideal of freedom. A National Church is conceived of as bound and controlled and enslaved. Nonconformist Churches delight to describe themselves as "free" Churches. The blessedness of freedom is in giving, not in taking. The essence of the Kingdom as Jesus explains it is service. It seems a startlingly clear deduction from the Gospel story that the best thing to do when your Church is back-sliding is to remain in her and to suffer. It is your suffering that will help her. Service which is so faithful and passionate that it is in the world's eyes suffering and sorrow and slavery is what Jesus demands from His disciples. Such faithful service goes always to the making of nations. An Englishman calls his army "the service." Can a Christian permit the suspicion of any lower ideal to disgrace his Church? Is a Christian's Church something which makes him comfortable, or is she something which sets him tasks? It is by suffering that we conquer. No law of the Kingdom is more fundamental.

We are fond of speaking of the Elizabethan age as "spacious." It was spacious because the nation reached a conscious unity of feeling and thought, such as nations touch only now and then in their history. That "spaciousness" is a spiritual thing. It ought to be obvious in the Kingdom of Christ as soon as that Kingdom begins to be concrete in a nation, and rises above the individual and provincial

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stage. It is not an accident that Elizabeth's reign produced the most Catholic-minded divine of the English Church. To consider for a moment the characteristics of Richard Hooker will be the best way of perceiving the virtue inherent in a national Church. Spiritual spaciousness is the quality of national as opposed to departmental religion. What Shakespeare is among dramatists, Hooker is among theologians. It is impossible to class him as a high Churchman, a low Churchman, or a broad Churchman. He has the fullest sympathy with all three types of mind. He was trained in the Evangelical school, and his favourite author is Saint Augustine. But his æsthetic sensibilities are delicate and keen, and it never occurs to him to regard them as the enemies of his soul. Through them God's grace comes to him as abundantly and gloriously as through his reasoning and contemplative faculties. To call him a high Churchman would be misleading, but he is, nevertheless, the spiritual ancestor of the modern high Church school, and is in full spiritual sympathy with the great mystics—with Philo Judæus, Dionysius the Areopagite, and Hugh of Saint Victor. He dares to quote Saint Thomas with respect, heedless of Protestant prejudice. But he has also his broad Church side. He has a noble faith in reason. The wholesome and sound side of the Renaissance is beautifully expressed in him. He loves to quote from so-called profane authors,—from Aristotle and Cicero. And these sides of his genius do not clash. They are harmonised. They are there because his nature is fuller and wider than is common;

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they are there unconsciously; just as unconsciously as Shakespeare's breadth of sympathy is present in his plays. Hooker's mind, therefore, gives no impression of indifference, of lazy tolerance of all creeds because none is held strongly. On the contrary, he is passionate on all his sides. If we sum him up under three aspects we have to admit that each with him is a joyful enthusiasm and all three are fused into one harmonious and homogeneous whole. It is this fusing together of different characteristics which in a national Church should come about at all times of deep national feeling. Such a fusion produces a new thing and a higher thing. When the spiritual tide of national life is low the national Church will find her schools of thought and temperament inclined to fall apart, and to split into "free" Churches, each trying to isolate itself and refusing to add to its own stature by the hearty vitality of its union with the whole body. It is impossible for a son of the Church of England to be complacent. What she is is so tormentingly below what she might be. But she aspires to be as full and passionate and strong as English human nature. She aspires to make out of English human nature the Kingdom of God which the Lord Jesus "orders" with His governance. That is her ancient historic mission. She desires the help of every Englishman to become what Englishmen, by help of God's grace, can make her.

RONALD BAYNE.

THE CHURCH AS SEEN FROM OUTSIDE

THE REV. PHILIP NAPIER WAGGETT, M.A.

Author of "Science and Religion"

WHEN a man is asked to describe in any way the attitude of the English Church towards "modern thought," to suggest the prospects of reconciliation and of common work, or, from a purely external view, to show something of what may be contributed by the Church's particular effort toward the general advance, he is confronted by a special difficulty. This difficulty lies in the immense separation which seems to exist between the two terms of the suggested enquiry. It is almost as if they were what philosophers, I believe, call incommensurate realities. How, men ask, does the Church position, how does Church controversy or Church development come into contact at all with the great intellectual movements of the day?¹ What we are troubled with is not that our controversy with what is not Church thought is too acute, but that it is too confused; or rather that there is hardly the

¹ I have, at some sacrifice, refrained from all direct reference to the Church's share in the Social effort of practical reform, an effort which is only by abstraction separated from that of thought.

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means for joining issue between the two claimants upon our attention. Somewhere in her "Letters," Mrs. Holland, writing to a friend in the country, speaks of the Creed going up in the village church, while the men listen to the wind which roars outside.¹ The Belief and the wind are competitors, so to speak, upon our attention; but they cannot be brought into a conflict of thought. The Creed and the modern movements, the Church and science—these indeed interrupt one another; they are rival applicants for the slender attention which we are able to give. We may yield our minds to one or the other, but we can hardly find within our consciousness a field for their debate. Rivals in an almost physical sense upon our attention, they are hardly controversialists, hardly opponents. The controversy, if it is a controversy at all, is confused, dim, lost in a mist wherein, so far from coming to terms, we hardly come to blows.

And then further, there are great personal misunderstandings which extremely hamper personal efforts, not of conciliation only, but of opposition. Our friend who comes to us with an ache of doubt goes away unsatisfied, not so much because what we have said appears to him unreasonable, but because we have attributed to him a position which is not his own at all. Of Christians, many think this or that man to have gone much further in intellectual doubt than he actually has. It is sometimes the Christian

¹ "I knew you must be still in Church listening to the sermon and the roaring wind,—and I so often think of the chancel and of the poor men who look out of the window while the Belief is said." — *Letter of Mary Sibylla Holland* (Arnold), p. 5.

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who has faced the deep places of doubt, and imagines in the other man a degree of critical power and of experience, of which he is perfectly innocent. It is so far from being the case that the Christians have not faced difficulties, that they give the adversary credit for having been in deeper water than he really has. On the other hand, others are much further removed than is supposed from our position, and are offered arguments and helps which are not at all in place, which have no appeal, no kind of point for them because they belong to a region of debate which requires, for the entrance upon it, the answering of many questions which are precisely the open questions of our interlocutors.

I hint at, rather than attempt to describe, a condition of things which is surely familiar to a good many amongst us. There goes the Church argument up aloft, with its questions of higher and lower, and its much more serious question of critical study, challenges of the authority of Christ, challenges of the authority of the Gospel to represent Christ, the challenge of the Church to show herself a body which really holds to the Gospel. These questions and challenges pass over our heads, almost above the clouds for some of us. Meanwhile down below we are beset with questions of a totally different order, on a different plane, in a different sphere, questions almost material. May I be pardoned for recalling, not as an example of this but as a kind of image of it, what happens to the parish priest who is preparing a friend for confirmation. After many sessions of instruction wherein the teacher has spent himself in the

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simplest explanation, and his pupil remains silent, mysteriously attentive, the clergyman pauses, more than rhetorically, for a reply. "I have said by this time a great many things to you, and asked you a great many questions. Have you nothing to say to me? it is your turn to ask. Is there no question to which you desire an answer?" And then the man brightens up; he has, indeed, a question. "Might I ask, sir,—I have often wondered—how much you paid for that clock?" That is not an example, but it is a sort of image of the complete remoteness of some acute and questioning minds from the kind of reason which we imagine them to be seeking. I leave the suggestion of the state as a suggestion, and endeavour to press on to some proposals of steps towards a cure.

The first need is one which I should describe, in the most general terms, as the need for a complete recognition of one another's honesty. I do not use the word "honesty" in any narrow sense. We are all, of course, indifferent honest, but intellectually there is the suspicion of *parti pris*. Do not harbour that suspicion, unless there are positive grounds for it. The Catholic, the high Churchman, has really his intellectual conscience, after all. The other man, who may call himself a materialist, has his immense desire for good. I am afraid I seem to repeat a merely familiar story, but the reality which I aim at is something rather different from what I have seen described. I am not pleading merely for a conciliatory temper, or for giving another man credit for good intentions; but for the remembrance, under the stress of the in-

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tellectual confusion of which I spoke, that possibly there is no confusion in the other man's own mind. One knows Dr. Liddon's old good-natured joke about the Westminster window and the fog on the Embankment. Well, what we now want is the thought, the guess, the hope that something else than fog inhabits the mind of the man who remains mysterious to us, whose window gives out only fumes our way.

This divination of another man's clearness which is obscure to us seems to need two principal supports. First, we must remember that some men have a more acute critical power than others: that questions which seem settled for us are open questions to them, because in their minds they possess a finer instrument which finds crevices where we find none. There is a difference, then, in critical power; some have it in a more acute state than we. But, on the other hand, the critical do well to remember that some men have larger *data* than they, a richer supply of substantial knowledge arising from experience. And although the acquisition of knowledge and its criticism are not powers which are alternatives in the mind, so that one is weak where the other is strong, yet it may often happen that the person of large and rich experience is not the most fully exercised in critical activities, and still more often that the man who is occupied in the fine division of the last ramifications of new questions is the man who has no time for deepening the capacity of his soul and for filling it with larger measures of substantial gain. With all reserves, it remains true that some men have more acute critical powers than others, and some have

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larger stores to deal with. We could all of us point, in literature if not in life, to the men of keen intelligence who have misjudged, very gravely misjudged, their Christian neighbours, taking them for Obscurantists, imagining them to be the enemies of advancing knowledge, only because all the time their Christian neighbours had their minds fixed upon a range of spiritual reality which might well occupy all the powers which they possessed.

A hopeful divination of other men's real thoughts, real clearness, would be a great gain; it would tend to reduce the confusion of our world of thought. And towards this there must be boldness in our own assertions, as well as hopefulness in hearing those of others. Apologetics must not become the effort to find another man to keep one in countenance in believing. If, in believing, we are forced to be content with the co-existence, along with our belief, of our *own* ignorance, how much more may we be patient in face of the existence of ignorance in others, concerning those things which make our life.

I allow myself to return with a certain freedom of digression to the question of *data*. We are losing the faculty of receiving as news, any piece of news. Positive information we have learned not to expect; *Nil admirari*, to be surprised at nothing, is the form of our mental experience. This effect is partly due to the fact that information reaches us in a continuous stream, a stream so rapid and so full that there is no point at which we catch the sense of freshness in our daily truth. Of this morning's paper a great deal

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was in yesterday's second edition, still more in yesterday's evening paper; while the whole contents of that were in the telegraphs on the notice-board earlier in the day. There is a continual addition, but no pause and no burst. The news is like the spring in Africa, which never comes because it never quite stays away. All this gives substance to the habit by virtue of which we expect to have known already what we are being told; and this in turn slides into the converse expectation that what we are told is indeed what we knew before. The very notion of news, the power to receive substantial addition to knowledge, is weakened.

This absence of the Athenian appetite is specially pronounced in the case of a man who is presented with spiritual news. When the very point to be conveyed is that there is more to experience than he has yet experienced, he is sure to fit to the words offered him the meaning which is measured by his own life. Rhetoric has something to answer for in this matter, pious rhetoric, which uses concerning the common-places of regular conduct or sincere intention the august expressions first employed by prophets concerning those original experiences which constitute revelation. If Saint Paul tells of a third heaven, we use his word to point to a mood of happy confidence in the letter of Scripture. If Saint John says, "What we have seen, we declare," his words are used as descriptive of men who try to explain what they have gathered from Saint John's Epistle. And when the great words inspired by original experience are thus fitted with secondary and derivative meaning, there remains no

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language to express to a man any evidence of the nearness and beauty of God which he does not himself share. There is nothing left but the poor eloquence of emphasis, that most forcible-feeble of appeals: or silence. And silence is the more practical way. We are like a painter who has used his brightest white before treating the high light of his composition, and has nothing left for that but to scratch a hole through his canvas.

But ought we not to be anxious to recover the common sense of the saints of earlier ages, so as to be able, like our predecessors, if not to share our neighbour's knowledge, at least to know that on this line or on that he knows more than we do? Failing this, we are left with so narrow a scheme of the *sibile*, so poverty-stricken a conception of being; with an outlook upon experience which, for all that may be said to us, remains, after all, only the reiterated report of our own inevitably one-sided life. We perform continually and on a large scale what I believe is called the fallacy of *simplex enumeratio*. This I know, and this, and this, and these are all; or the rest at any rate is unknowable.

And then there is the word "suggestive." This is answerable for almost as much mischief as the secondary use of great statements. The word had and has its own appropriate use, but it has been used too freely. It became the fashion some years ago when an original man gave us of his best, to say that his book or sermon was "most suggestive." This appreciation, once aimed at a special quality in the

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speech and a special experience in the hearer, came in time to carry with it the flattering notion that, fine as were the speaker's thoughts, they were nothing compared to the bright trains of reflection initiated in the hearers' minds. It was a rich soil into which his plough was put; a rare energy was set free by his timely but still humble stimulus. His function, the function of the most brilliant, was to interpret us to ourselves, to give words to the thoughts waiting in all of us for expression. Hence his ready appeal, our warm welcome. He was ourselves made audible; he "voiced"—most horrible of all our newer words—our silent thought; his speech was "most suggestive." And indeed it would be rash to say that the most popular speakers are not those who tell what everybody knew already. But we must be on our guard against a certain simple conversion of propositions. It is true that when a man tells us what we knew, he speaks interestingly. Yet we must not draw from this the statement that the man who speaks interestingly never tells us what we did not know.

But few will practically believe this, except here and there on points of material science. In a philosophical circle it would be impossible to get out a fresh thought, if the circle were visited by one. Every one would be so eager to label its expression with some old name: This is Berkeley, that is Kant; this is Dogmatism, Pragmatism, even Platonism. New words, if they could be found, would at once receive an old connotation. Tell a man of a new spirit in music, he will interrupt you with "Ah! the after-

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wave of Berlioz." Tell an Englishman, lost for six years on an uninhabited island, about the behaviour of radium salts, and before the word emanation is out of your mouth, he will cap you with the aerial diffusion of lead. I myself showed as something a little fresh, our new Capetown electric car, incandescent within and without, and flashing violet above and below, to a raw native fresh from beyond the Kei, who had probably hardly seen a train until he embarked for Capetown at Indwe. But his philosophy, his mood was also, and quite sincerely, *nil admirari*. It was "white man's ways," and he was not at all surprised. For him, as for the rest of us, every new thing seemed to have been seen before. And yet I doubt whether, like Mr. Henry James' person of "experience," he was "in the condition of feeling life in general so completely that you are well on your way to knowing any particular corner of it."¹

I admit frankly that my last instance is unfavourable to the notion that our disease of sameness is at all a new disease. Let it stand. We at any rate have the disease more acutely every day, if acuteness can be spoken of in such a connection.

It is most oppressive in the field of religion, and there it oppresses the amiable as much as the truculent. We are of the best intentions and wish to learn. But our bright intelligent way of taking each other's disclosures to point always to our own, quite possibly

¹ *Partial Portraits*, p. 389.

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more interesting, past, must sometimes, one imagines, be almost exasperating to the man who wants to tell us what we have already in terms assured him that we do not know.

I plead rather earnestly for the recognition, for the hopeful suspicion, that other men may have gone through more than we have. I plead for the truth of the Differences of Data; for a waiting, silent, painfully attentive attitude. Let us be more receptive, if haply some one has, after all, something to add to us in counsel.

One's own brilliant critical faculty may resolve the world as it appears to oneself into matter and energy; into lumps and shakes; the tiniest lumps, and shakes rapid beyond imagination. If to another it appears to contain more, or to be contained by something which we cannot admit to consideration, let us not be over-ready to conclude that the difference of opinion is due to his blunted critical faculty *alone*. A wider experience, a mass of data less easily managed than our own, may also have contributed to this disagreement.

II

I HAVE allowed myself a long digression on this point of the credit for sincerity which must be extended as far as possible to all our various witnesses.

The second great need I should describe as the endeavour to distribute our enquiry, the enquiry of faith. The reason we make so very little progress in

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the actual work of controversy, the reason so many men, in despair of a scientific, go on with their own measure of knowledge and leave other people with their own doubts, is that what is in itself a long and intricate enquiry is put before us all together and confusedly. We should be much more likely to take an interest in the whole field if the field were mapped. We do not become all-round men by having questions thrown in upon us at once from every side. Distinction is a step towards co-ordination. What may well at first sight appear an effort of departmentalisation will turn out to be the most profitable effort towards a wider view of the whole field; whereas that confused treatment which despises departmental limits results only in a man's almost total ignorance of the whole, and his far from moderate estimate of the small portion which he himself surveys. I wonder whether others feel with me about this, about the way in which questions which are real questions, are made unreal by being produced in the mid-course of an enquiry which, by its very existence, presupposes that they have been answered one way or the other.

One can understand the matter best when we take the physical side. How tiresome and useless it would be, how tiresome, in fact, it often is, if in the crisis of a physical discussion concerning the behaviour of a newly discovered metal, or the more subtle but still purely physical enquiry into the ultimate constitution of matter, one finds oneself confronted with questions strictly ontological. The discussion of atoms is often

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thus miserably confused. We get a mixture between what is, after all, only the most minute measurable constituent of stuff, which cannot indeed be seen but which may be inferred mathematically by a consideration, for example, of the behaviour of light in certain circumstances, with what is quite another thing, namely the ideal, metaphysical, ultimate, or original constituent of matter. How tiresome would be the metaphysical critic who, in the midst of our consideration of some wonderful measurement of minutest bodies, should intrude the etymological criticism that whatever can be measured is *ex hypothesi* not an atom. Or to take the cruder case; how troublesome if in the course of the re-examination of *g* by means of an improved Cavendish experiment, somebody were to raise the question of the existence of the external world. The judicious must surely answer that, while the existence of the external world may be in itself very doubtful, for physical experiment it must be regarded as settled. It has no place in an enquiry which assumes the affirmative answer to the wider metaphysical question. Well, is it not exactly the same thing when in the course of a discussion about the behaviour of the soul or of the reality of the Church you are confronted by the question put to us by dogmatic materialism? Undoubtedly many believers are materialists about material things and even about what they call spiritual things, but this does not make the question less hopelessly inconvenient. It is obvious that no enquiry could go forward with any prospect of success where the different steps of doubt are not more clearly marked out. To

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some of the questions which we meet,— Has Science disproved creation? or, Have new discoveries given fresh probability to the statement that light was called into being by God's will? — it is impossible to give any answer, because it is impossible to give any meaning. You may as well tell what is the Presbyterian view of radium salts, or whether Mr. Warner's success in Australia has strengthened the Church schools.

Now I would endeavour to say with all emphasis that my idea is not that any of the questions debated amongst us are to be ruled out, either those which belong to concrete matters of occurrence or those, at the opposite pole, which belong to the most ultimate problems of being. We are not to put aside by a kind of anathema those, for example, who doubt the existence of spirit. But we may properly invite them to consider that their presence cannot be practically useful in a mental assembly, whose business it is to consider the prospects of the spiritual life. Their question is a good and valid one. If it can be argued out with these who are interested in it so as to reach a negative reply, all trouble about Christianity would then be saved; for there would be nothing upon which to found a debate. We could say, after the fashion of ministers in the French Chamber, *Il n'y a pas de question religieuse.* What is hopelessly unreasonable and unpractical is the sudden intrusion of these doubts at a later stage, when issue has already been joined upon questions which cannot arise until the materialistic superstition has been crushed. None of

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the questions are to be stifled, but we are to take things in order, and to admit to higher—or if so please you to lower—disputations those who have made up their minds about the earlier questions which are the wicket-gates to the several departments. There is no profit in discussing New Testament Law with those who do not acknowledge the authority of Jesus upon which all Christian Law rests.

I have made these remarks by way of preparation—I believe a necessary preparation—for the endeavour to answer the question which I suppose to be put to me—"What do you mean by the Church?" If we are to bring Church ideas into any kind of scheme of general criticism, we must make up our minds about the links of connection. Quite at the first, perhaps, the work of thought will be to segregate these Church questions, to show them as lying far within a system which can only be entered by the affirmative answer, as I have repeatedly said, to certain early questions. Materialism, dogmatic accounts of the past of mankind, unmoral views of Society—it is absurd to bring any of these into direct collision with Church notions. The mere question of reality of the Church does not arise for those to whom these questions are still open ones. The first work may therefore be a work of segregation; but there will next be the work of making steps and links. We shall have to show how, where the successive affirmations of approach are possible, the questions which elicit them must be framed and ranged; by what steps does the man win entrance

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to the region where Church questions are real ones. This task is not one for me to endeavour in such an essay as this. It is something to have pointed out its existence and its nature.

In a simply logical world the result of such a method of approaching Church questions would be to narrow progressively the circle of men to whom we should appeal. To speak in the crude language of external facts, we should have first a band of men discussing the reality of the spirit. Supposing half of them deny it, are, in fact, materialists, or find that they cannot give with certainty an affirmative answer, that is to say are agnostics; then the next step towards a Christian debate is left with a smaller public for its appeal. We go on with the other half. Among these men, believers about the soul, there will arise genuine questions about God's relationship to it. And eventually from point to point we pass to those who are confronted with the great and vital question whether as spiritual men, as believers in the prerogative of the spirit, they can accept the leadership and the mastery of Jesus Christ.

Of course such a statement as this has to be made with great reserves. It is merely put forward as a crude suggestion of what actually goes on in much more subtle ways in the world of mind. In the concrete, in the mixed man, in the experience moving at once in several planes which is life, we have no such strict separations. People do not first make up their minds that they are spiritualists, and then ask themselves the questions of Theism. They do not first make up their minds about God, and then ask them-

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selves the question of Christianity. They find God in Christ, and finding God they find themselves. And the questions of materialistic philosophy are dissipated by the very fact that men find themselves in the position, in a spiritual position where they become unintelligible. Still when it comes to debate, it is after some such outline as this that the debate must proceed. And it is by link after link like this that the bond can be forged between the materialistic position and the position where Church questions are important.

It is only by the avenue of the inward consciousness, in the resolved submission of the man, that we find our way to the Church.

The Church itself is a reality of spirit, in spirit, evident to spirit, real in point of fact only for spirits, and those only in the particular condition of obedience, of conversion. The body of men who are possessed by this reality have contact in affairs with other men for whom the Church reality, the reality of souls submitted to Christ, is practically nonexistent.

The Church idea, therefore, comes into conflict in the sphere of conduct with rival ideas, and its subjects appear as a band of men among the nations of the world. But it remains an ideal reality, and the questions which concern it can only be examined by those who by successive and ever more exacting affirmations have come in view of its true features.

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III

HERE, indeed, the notions falsely, as Maurice showed, called "popular" can help us very little. Few things probably are more simply defined than the high Church position as it appears to those who are not high Churchmen. To those who accept the unpopular name, high Churchmanship, so far as it stands for what they accept, stands for an entire religious life, with all its complexity, variety, and depth. In a given space and time, the best that can be attempted is to select one or two points out of the whole position for fairly deliberate discussion. And further, when the occasion of the writing is an attempt at general understanding, the points chosen should be points upon which misunderstanding is most general. These two points for us are probably, first, the question of the limits and constitution of the Church, and secondly the question of the value of outward things in religion.

It is the first upon which I shall spend the rest of my space, the question of the limits and constitution of the Church. The task of defining a conception of these may perhaps best be approached by setting in order four possible types of conviction.

(1) The first type of conviction is one which perhaps does not exist in many actual minds. It is that the Church, the outward body of believing Christians in which Revelation and Grace energise among men, is one which is not only quite strictly defined but also quite easily recognised, so that we can say without

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hesitation concerning a given man, if only he is accurately described, that he does or does not belong to the Church. In this view the membership in the Church which is necessary to salvation, with whatever difficulties of particular evidence, may always be ascertained in principle by means of well-known tests.

(2) The second type of conviction is that which regards external organisation, corporate life, as a positive hindrance to spiritual reality, which sees the very essence of personal reality in self-seclusion and in separation from others. While other things may have corporate existence, salvation must always be individual in such sense as to have no organisation in common with others, or at any rate as little as possible. In this point of view organisation is only a concession to the necessities of the human side of the Church, and in no sense a part of its divine reality.

(3) While the two former notions are perhaps not definitely held by many, there are many who would seek satisfaction in a third view; namely, that corporate activity is part, or at any rate a result of the genuine life of Grace, and is indeed its actual realisation in the world we know; but that there is no particular form of organisation which is better than another. The various methods by which Christians have combined are to be judged as methods toward an end, namely the propagation of the Gospel, of which the organisation itself is not considered to form a part. They are the products of human wit; and therefore any particular form is valuable, like

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a society for the promotion of a special Christian purpose, so long as it is found not inconvenient; and it ought never to be clung to as in itself part of the end for which men are Christians. In general terms, corporate life is not an evil, but a good thing; yet it is a thing which in its form has not come to us by authority, is rather regulated with a view to the temporary fulfilment in a given place of a purpose which is in itself eternal, namely the salvation of all men. This theory is accepted, no doubt, with more or less of consciousness and of satisfaction by many men of good-will.

(4) Fourthly, and in contrast to the last as well as to the other two, we attempt to describe the Catholic position. This finds, indeed, in the corporate life of the kingdom, as it is called in the New Testament, not a mere piece of machinery, but part of the essence of the Gospel. Those who hold it reject the idea that the Church is to be considered merely as an unessential method of getting out the essential message. They are so far dissatisfied with the statement that the Church exists in order to preach the Gospel, and find it so one-sided, that they would be almost willing in preference to accept the statement that the Gospel was and is preached in order to create the Church. The Church is the end, in this view, of our Lord's own ministry. He came that He might gather together men into one and make them into a Body. The object of all His ministry and passion is to get for Himself and make for Himself and to present to God a perfect Church. To gather together into one those who had been scattered, who

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had been, not a people, but only so many persons. In broadest contrast, therefore, with the second view, it regards organisation and corporate life, the unity of growth, as constituting the very object of Christ's whole work, and of His Prayer "that they may be one." Further in contrast to the last-mentioned view (3), and in consequence of what has been already said, it is held by high Churchmen that there are definite and real principles of organisation which have come to us from Christ; that if it is untrue to describe corporate life as in contrast with, or hostile to, personal religion, it is also untrue, though in a less degree, to regard the dislocation of corporate life as in its own nature an indifferent thing which no man need lament. Yet it refuses to commit itself to the view which we have put at the head (1).

The principles of organisation which are in their own nature certain, are nevertheless *known* with various degrees of certainty and knowledge.

The knowledge which is in its own nature sincere is *carried out in action* with various degrees of success.

In such a view, therefore, however illogical it may appear to some, there is a possibility of actual gradation in men's Churchmanship, and also a possibility of actual doubt with regard to the degree to which they have attained true obedience to the divine plan. A man who should think in this manner would be slow, therefore — in many cases he would finally refuse — to define as out of the Church those who lack what he believes to be some of the elements of

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its true organisation. He does not readily consent to draw a line, however far afield, within which men who believe in Christ are, and beyond which they cease to be, Churchmen. Rather he is bound by the very nature of his doctrine concerning Churchmanship, namely, that it is of the essence of the Gospel to believe profoundly that everybody is a true Churchman in the very same proportion as he is a true Christian.

He will admit (and it is a thought which will balance what has been last uttered), that the Christian life often grows in human souls in a one-sided and unbalanced way; that its progress, so far as that progress is discernible, is of necessity made, not in direct lines, but by steps which sway from side to side. Therefore he will recognise that in some men the work of Grace may proceed very far, though the thoughts of solidarity and corporate responsibility have not developed at all equally with those of the individual joy in Christ. Still, though in this way a man may be growing in intensity of Christian life without for the time growing in the sense of the Kingdom, yet taking things on the whole, we may say, and the high Churchman is bound to say, that the more truly a man is a Christian, the more consciously his Christianity is developed, and the further (taking things on the whole) it has gone, so much the more must he be in a true sense a Churchman. And seeing, as we do, the work of Grace operating in many quarters that lie apart from the historical organisation of the Church in its main stream, we are

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unable and we are unwilling—in fact we resolutely refuse—to draw the line among the followers of Christ at which the Church ceases. I emphasise the word “line.” I do not say there are no limits. But the figure which seems most fit to suggest the Church’s unity is not that of a disk bounded by a definite circumference, a disk within which all is safe and outside of which all is nought or uncertain. The figure which is felt to be more profitable is that of a radiating light, the limits of whose area, though they exist, cannot be discerned, and the form of whose extension is star-like. As the rays streaming from the centre penetrate into the darkness, so the Church penetrates into the world, and it is impossible to say where it leaves off.

But it does not follow from this figure, nor does it follow from the thought which it is offered to illustrate, that a high Churchman is indifferent to the less and the more of Churchmanship, or that he has no measure of them, no guidance for their recognition. The Church which cannot be defined like a geometrical figure by its limiting line, is defined, and with absolute certainty, by its blazing centre; and to be a Churchman means to have recognised the paths along which the light streams from the centre; to have accepted as part of the Gospel, in the first place the *principle* of organisation or rather of organic life, and in the second place certain paths along which this organic life is constituted. Accordingly, though the high Churchman is able to be most liberal with regard to others, he is with regard to himself strict and unswerving, and is never satisfied with the degree

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of obedience he has attained. He seeks to realise to the fullest possible extent of activity and form, those principles which he already discerns, and he seeks to know more and more fully the root of those principles, the deeper first principles which underlie them. Consequently, though his position is in contrast with that of the man who thinks that a crude answer can always be given with regard to the limits of the Church, it is also greatly contrasted with the position of the man who thinks that the Church does not exist, and that there is no particular man or group of men nearer than any others are to the form in which God meant them to live.

The most thorough-going view of the necessity of Church fidelity is capable of being also the most tolerant, or rather the most generous and hopeful. To believe that Churchmanship is essential to Christianity is to discover Churchmanship in all Christians. But the "moderate" view, the opinion that Churchmanship is a desirable adjunct or ornament to something else which is essential Christianity, leaves a man free to deny any position in the Church to many whom he acknowledges to be Christians; to regard himself as possessing a dignity or advantage of station, a real gift from Christ which is not only denied to some others, but which they are not in need of.

Certainly the thorough-going view may also be ungenerous. It is not enough to perceive the logical conversion of the proposition "only Churchmen are Christians" into "all Christians are Churchmen,"

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though even this is more than some have perceived. Everything turns on the practical treatment of the converse thus arrived at. It becomes a warrant of hope and a command of generous sympathy and honour only when it is steadily held in the light of experience. We must be faithful to the positive method. That is, we must look at what men are, at what they believe and do; we must recognise gladly the Christian state when we see it, and pray for the grace not to miss the discovery of it where it exists. Under this safeguard of watchfulness, our proposition "only Churchmen are Christians" will not lead to our denying the Christianity of those whose Churchmanship is not evident. We shall, at all costs, recognise the discipleship to Christ, and believe that, however ill realised or unconscious it may be, the desire of Church life must be in those who desire to belong to Him. I say "desire," for it may be that there are some, even among believers, who are rather in the position of catechumens than of full disciples; who are on the way to belong to Christ, rather than travelling a path within His realm.

And further, the positive method, the appeal to experience, to history, has a double application, just as our bare proposition has. We are not to reduce our list of Christians in order to preserve our definition of Church essentials; we are to keep in the safe way of experience, asking who actually is a Christian. But, on the other hand, we must not impoverish our conception of Churchmanship in order to make it match our own Christianity. We must ask what actually is and has been the way of the Church. Is not

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the Eucharist the glowing hearth of love from which all her devotion streams, unless, unawares, she has become something other than she was? And is not the Eucharist all this because it is the Lord's own Presence? Is not the "moderate" view of the great ordinance the one which really deserves the blame of showing a third thing between the Lord and the Soul? Is not the "extreme" view here also the safe view, the unifying view, which sees in His sacrament Christ, and Christ alone, and regards that which is Best as also Necessary?

But I have gone too far. I refrain from suggesting the questions which naturally precede and follow this one; questions of incorporation, ministry, order, conference, common action. This seems to me no place to ask what a synod is and who can sit in it. I desire not to obscure the main statement that Churchmanship may be variable and yet real, that the Church's unity is vital and most definite, though it is not to be described as if by the lines of a geometrical figure, but determined by the continuity of life. So far as in this way one can suggest anything, this seems to me to suggest the high Churchman's thought about the Church; its ultimate and absolute necessity, its essential and Divine character, its real and definite existence; and yet at the same time the difficulty which must be ours with regard to its limits. And along with this prudent, modest, and liberal attitude concerning others, what I have said suggests, I hope, the reality of the high Churchman's unflinching confidence in the principles of organisation which have come down to us from the great past, and his

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constant zeal, just so far as he is a real high Churchman, to know more accurately and to follow more faithfully, the lines of organic life which he believes to be the lines of obedience.

It is indeed in this word "obedience" that the whole secret lies. For here is our answer to those who, putting aside all the cheap and long-discredited objections to corporate life which were formerly thought valuable, would urge upon us, that if the Church is indeed a vital unity, if its laws are laws of life, they may be trusted to take care of themselves; that the Church, if it is indeed part of the work of Grace to make a body, is bound to be such a body; and that therefore there is no call for any given man to take sides upon the matter, to stand for the principles of organisation; that it is bound to assert itself without him; that there is no need to take pains about the discernment of the principles of growth which are quite certain to vindicate themselves by their own power of life; that what we ought to desire is to live the Christian life within ourselves; its form and relations will take care of themselves. Indeed there is much truth in this, so much truth that all our care and thought, all our study of the past, all our anxiety about Sacraments and Orders and unity of action, are wholly and finally worthless, unless at the ground and root of them there is the care to increase in the essential life and joy of God's presence. But if this be there, then it does not follow that the other care is unnecessary; for the life which we are speaking of is an intellectual life.

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It constitutes itself, it reasserts itself against death, it maintains itself, not by a mechanical necessity, not by a quasi-chemical metabolism of nutrition, but by a process of souls. The image from life misleads us if we conclude from it that because the plant grows without thinking, therefore the anti-typal plant, the Church, will grow without thinking also; that because the grub is metamorphosed into the fly without prayer, without zeal, without love, without intention, therefore the life of which it is the image, the new creation in mankind, will bring itself to pass without thought. In order to obtain a just parallel to a Church growing without thought and zeal we should need a tree growing without sap and fibre, a plant nourished without leaves or chlorophyll, an animal developed without food, without blood. For indeed the blood, the food, the sap, the growth-process of a body which is a body of salvation is constituted in thought, in spiritual activity, in love and penitence. Its growth is a growth by intention, the maintenance of its life is the maintenance of its purpose. It is a new creation in freedom, growing by the enlistment and redemption of the fallen will, growing as the will once fallen is lifted up into a genuine and growingly conscious share in the Divine purpose. The Fall itself is the abandonment of thought for impulse. The fault which had to be remedied was precisely this slothful yielding to laws of growth which realise themselves. The new life is a life in the broadest sense intellectual; it is a life of light. And here is our answer to those who ask us why, if Churchmanship is indeed part

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of the life of Grace, we do not trust blind Grace to bring forth true Churchmanship. Our answer is that the labour of knowledge, the effort of Conservatism, the energy (even the strife) of adherence, to the principles we discern, the long toil of obedience, is the very thing, is the very life we trust, but which finds itself in knowledge and struggle, in choice, that there is no virtue which is to remain blind, no Grace which is not always conquering darkness, that the Life is the Light of men. And if there be any person strictly in contrast with the high Churchman I have sketched, it is precisely the man who thinks that no care of his is called for in order that the form may be true, who thinks that the energy bestowed upon a genuine representation on earth of the law of the Kingdom is an energy which ought to have been spared for the more vital cause, the more intimate and separate concerns of the soul in its solitude before God. The high Churchman recognises that the Kingdom is the first word of the Gospel; that the Lord in the announcement of His purpose, in the announcement of His presence, made mention first of a Kingdom, even before he named the King, and made clear at the same time that it was a Kingdom of souls, a Kingdom of thought and Love, a Kingdom whose laws had their authority indeed from above, but their sanction and the means of their fulfilment in the willing action of obedient hearts.

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The above may seem to many with whom I am really in full sympathy but a very poor, meagre, and vague account of the great possession we share. It means something not vague to me, and I am sure that the thing which these words point to is not poor and slight, but the one great thing under Heaven which has its roots in Heaven itself.

The comprehension towards which I desire to lift my wishes and thoughts is one not only different from certain practical schemes of compromise but related to them as an opposite. The so-called Church unity whose basis is of the earth, earthy, has often been offered and in many contrasted forms to the acceptance of Christians wearied and weakened by debate. It almost always proves to be a unity of outward form or at most of merely intellectual consistency. When we meet the proposal that Church people should have the widest liberty in belief and disbelief, so long as they conform with exactness to a state-regulated ceremonial, we meet an old friend, or rather an old enemy, in almost the old form. Rigidity of legal uniformity has very often gone along with indifference about the heart of truth. Erastianism and Latitudinarianism are old allies. And even when the exaggerated claim of State or National Control was made in Catholic accents, it was not always untouched by that fault from which Catholics think themselves most of all likely to be free. The extremes of doubt and dogma meet, and meet sometimes in one man. The Court which supported Laud, supported Hobbes as well, and patronised Chillingworth. The unity of externalism is not

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simply a poor substitute, it is the thing most incompatible with deep orthodoxy and the vital interconnection of reason, love, and will in a single effort. The day we long for is not a day in which the Church of England will move grandly forward with a Prayerbook perfectly exhibited through the uniform ministry of men holding opposite beliefs; but a day, the day, when the light shall shine so full in her, and the vital connection of her heart and movements be so sure and so known, that there shall be room in her and room claimed for every man who really confesses that JESUS is LORD, God manifest in the flesh,—room for all those, and room for no one else.

I say “room claimed” by those for whom the room is ready. And, in strictness remember, this will mean that no one will suppose himself to be a Christian who does not also believe himself to be a Churchman, and endeavour to realise his Churchmanship in love and obedience.

Such a Church, true to itself in inmost truth, will be far from thinking the furthest offsets of external action insignificant. She will insist, on the contrary, that they shall become significant. Knowing the fountain-head of her own waters, she will endeavour that the streams may run clear, from unexpressible love to ordered statement; from statement to ceremonial, vital and yet various, because enlisting the various temperaments which share the one love; from worship to social endeavour, minute in intimacy, ever broader in extension; to expression in many

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unforeseen activities which shall be church activities, because they are spiritual, but not spiritual because they despise the body. Such a Church, true to herself, intolerant, as every living thing must be by the terms of the charter of life, of all that is contrary to her life, will yet be the Church which alone can serve the men who, at a given hour, still seek and have not found the faith in which she rests and moves.

IV

MUCH must be added to this paper before it could safely, however slightly, represent the Church idea upon more than one side. I may be expected to tell what, in my own belief, *are* the main and necessary elements of organisation; what is finally and always characteristic of the Church; what at the lowest reckoning a Christian is; at what point, for practical purposes, fellowship is effectual. But I should depart from my plan if I discussed these here. Silence about them is dictated not by a conciliatory prudence, or even alone by the modesty of little knowledge, but by the *occasion* and the *method* of the present paper. For this is not a proposal for reform or for co-operation, nor is it a discourse intended to expose the strength of their position to high Churchmen or to make those men high Churchmen who are not that now. It aims only at removing some quite preliminary objections to considering the Church system and idea as rational at all; and it stops very far short of any description of the Church's life as it is.

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At present a good deal has been done to explain and recommend the ideals and the nature and work of science to those Churchmen who are not scientific. In such work we do not show positively the features, for example, of biological investigation or of its subject-matter. The end is attained if it is shown that Biology is not an artificial system remote from nature, or in method remote from other parts of science, or fanciful, or given up to inconsequent speculation.

The same restriction of effort is proper when we speak of the Church and the Church idea to any who have thought of the first as a conventional association, or of the other as an eccentric survival in thought only possible for those who exile themselves from modern studies. It would be an "extravagance," a departure from method — and I was guilty for a moment of such an extravagance — to introduce any one or two of the positive facts the importance of which taken together I have endeavoured to point out.

The main thing needed in order that the Church may come within the view of many men is to assert afresh her spiritual character. This which seems to segregate her really brings her near. Not all men have cathedral stalls, but all men have souls. It is when the Church seems to take rank with the kingdoms of the world or the associations for secular study that she becomes unintelligible, impossible, at least quite unmanageable for thought. To be removed is in this case to draw near, to be listed up is to be homely.

But she is a mystic, not a sorcerer; and mystics are,

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for ordinary purposes, quite ordinary. That is why, like Gilliatt in "*Les Travailleurs de la Mer*," the Church is so disappointing in the matter of miracles, social or otherwise; miracles, such as the critics expect. "Faire des miracles était une chose à laquelle il se refusait obstinément, ce qui est ridicule à un sorcier. Ne soyez pas sorcier, mais si vous l'êtes, faites votre métier."

The Church is neither a rival in the market, nor a sorcerer in our town, something strange but earthy. The Church is mankind spiritualised, re-created; and this very sublimeness, I said, makes her ordinary and near.

The Irish missionaries planted themselves in isles to be near all Britain. It is the castle frowning among us which is isolated. The island is our neighbour by virtue of the sea, that wonderful sea which unites because it divides, and is an image of the unifying virtue of a true distinction.

The being of the Church, we have to repeat, is in the minds and for the minds of men; but we must give to every term of this expression its widest meaning. It is as a development of a certain condition of the consciousness that the Church takes a place among cognisable facts.

The authority of the Church is an authority for brethren, for believers, about belief, in belief, an authority to help prayer and love. It is the authority which one exercises toward the other, which all exercise for each, when two or three are gathered together, when they agree touching anything they shall ask. It is the authority which the mother possesses

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for the child, when they worship together, the child kneeling toward his mother, his face veiled in her robe, and Christ between them. It is an authority of consent but not of self-directed consent, for the leadership is an appointed one.

The man who from outside challenges this authority is like one who should intrude upon the mutual confidence of friends. But the very thing which makes interference ludicrous makes understanding possible. It is when the Church confronts men as a power conventionally or nationally or financially defined that she becomes an unintelligible mystery. When she appears not simply as the shrine of an idea which might have remained without a shrine, but as life with the form which belongs to life, it is possible for her to be contemplated by men who are for the time not of her, and to bring the truth nearer to them.

PHILIP NAPIER WAGGETT.

A CHURCH OF ROME APPROACH

WILFRID WARD, B.A.

Author of "Witnesses to the Unseen," etc.

I REGARD the word "science" in the title of this work as comprehending historical and biblical criticism, as well as the physical sciences, and I propose, in response to the invitation of the Editor, to answer three questions:—

(1) Why, in endeavouring to formulate a *Weltanschauung* which takes cognisance at once of the trend and achievements of science, and of the truths of religion, do I consider that the problem should be approached, in the first instance, from the standpoint of religious faith, rather than from that of science?

(2) Why do I consider that the constitution of the Roman Catholic Church is suited, ideally, for the necessary mental adjustments, apart from the consideration of certain practical difficulties which make the general assimilation of new truths slower among Catholics than in other religious bodies?

(3) How do I regard the problem practically *hic et nunc*, account being taken of these difficulties?

I propose to give my answers briefly, and on those broad lines which alone the space placed at my disposal allows.

(1) In answering the first question, I go upon the general principles which we inherit, in different forms,

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from Burke, from Butler, from Coleridge, from Cardinal Newman,—that we have, in dealing with such questions as those before us, to ascertain the order of Nature in the human mind, and to act on it.

The true province of science, in relation to human experience as a whole, is not to give us an entirely new standpoint which supersedes the old, any more than we wear spectacles to take the place of eyes. It is, on the contrary, to extend or correct the defective or inaccurate spontaneous declarations of experience, which science presupposes as having their root in truth. Experience, though radically trustworthy, is seldom long content with its own narrow limits. It issues spontaneously, in deductions from the *data* of experience, or speculations on their implications, which are partly true, partly illusive conjecture. Science corrects illusions, and gradually substitutes the true rational developments of experience for its inaccurate and fanciful developments. But in doing so it assumes the truth of the primary *data* of experience.

I assume all forms of religion to present normally a combination, in very various proportions, of human speculation and tradition, with one aspect of experience,—namely, the consciousness of responsibility contained in conscience, and the sense it conveys of dependence on a higher Power. Speculation and legend are interwoven with those parts of religious experience which are the true life of religion. And in this connection, as in the case of other aspects of experience which have become blended with fanciful conjecture, the lawful function of science is, I main-

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tain, not, in the first instance, to make a clean sweep of existing beliefs, but to sift critically their various ingredients. The work of science is not to destroy the existing religion, or to offer us an entirely new mental synthesis, but gradually to correct the incidental extravagances of prescientific speculation on the supernatural, and to prune its overgrowths. One cannot destroy religion provisionally. Religion, once destroyed, will not be effectually replaced. It is too intimately connected with the gradual development of mind and soul to be given effectually from outside in mature life. A new scientifico-religious creed would not easily take root, for the religious element in it would be largely destitute of its normal evidence. Nay, more, the power of inward growth in the religion early implanted, its power of holding and moulding the mind, may be easily destroyed by the rough handling even of its mental setting,—of the incidental legends and speculations which it contains. It is a case of the wheat and the tares over again. Some undisturbed growth, some permission of superstitious accretion is necessary, at all events under our present conditions, in order that what is normal and true in religion may be firmly grasped. With some minds, indeed, just as inevitable limitation prevents any one from being a specialist in many branches, so a certain congenital weakness makes a grasp of the scientific standpoint incompatible with a grasp of religious truth, and such weakness must be recognised and allowed for in individual cases. For Silas Marner to doubt that the lots decided aright was to disbelieve in God. It is probable that had any one

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succeeded in persuading the simple Lama, in Mr. Kipling's *Kim*, that his quest for the river of healing which sprang up where the Saviour shot his arrow was a fool's errand, that his conviction that Kim had been providentially sent to him was credulity of the deepest dye, that many other sustaining beliefs which guided his course in life were equally unreliable, he would eventually have gone mad with sorrow. We can hardly conceive his faith in Providence surviving the destruction of a setting which had become so elaborately and closely twined around it. His religious faith could not have stood the truths of even a very simple science. Yet the touching picture before us is that of a really "holy one," as he was regarded by the people, whose faith in guidance from on high, and in the worth of righteousness, had in it elements that were trustworthy as they were deep, and would make him capable of enduring death for the True and the Just.

Such cases must be in our minds if we would see all aspects of the practical problem before us, because what is wholly true of a small minority of simple-minded mystics, is partly true of a large majority of believers. The point will come at which the effect on the imagination of a new setting, if it is offered suddenly and wholesale, will destroy a true faith. For man does not live by reason alone. But the motive which has prompted the present volume reminds us that such incompatibility between religious and scientific culture does not represent the normal attitude of the most thoughtful at present. On the contrary, it is the union of faith with superstition

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— the divorce of faith from science — which is apt to give, in their eyes, a certain plausibility to the agnostic contention that religion is incredible as being naturally the enemy of a science which is undeniable, and that a reconciliation between the two is impossible.

The question before us is, then, how in one individual to combine a grasp of the truths of religion with an acceptance of the general outlook revealed by the secular sciences; and I maintain, as I have already said, that the normal course of life and of Nature is, in dealing with this problem, our best guide. A child learns the broad principles of right and wrong; it learns to trust its parents, to trust the information of its senses, which, as time goes on, gradually correct and supplement each other; to believe the broad simple views of history, the inculcation of which experience shows to be the only way of teaching its first lessons. There are certain practical correlatives to the child's apprehension of these early lessons which are *not* true. Confidence in parents, so desirable and reasonable a temper, translates itself into a practical belief in their infallibility. The vivid apprehension of the pictures or lessons through which it learns its first lessons of history often translates itself into a belief in the literal exactness of what are really inexact symbols, or broad views which need much qualification to make them accurate. The judgments of the home circle are again held as a final standard. To correct in due course these inaccurate overgrowths of valuable beliefs, Nature does not recommend a clean sweep of

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early lessons,—the presentment of a brand-new creed of science and enlightenment, which begins by saying, "what you have learnt is false; I will teach you a new and better way." On the contrary, a wise teacher gradually, and in proportion as the mind is ripe for such distinctions, points out the difference between the truths and their exaggerations. Parents are, he explains for the practical purposes of a child's daily guidance, generally trustworthy; but they are not infallible. The judgments of the home circle give, in most cases, a definite and more or less coherent point of departure for freer criticism,—and one must have *some* fairly coherent standpoint to begin with, at the lowest, as an exercise ground for the intellect. The early lessons in history, and the pictures used to illustrate them do give broad outlines of true historical events of which the details are unknown or known to be far more complex than can be conveyed in the form of their first presentment. The division of historical characters into good and bad (to which a child tends with instinctive delight) has its meaning and represents the outlines of a general view. Further knowledge is introduced gradually as a corrective. It is not presented as something which ought to displace bodily and supersede the whole existing mental furniture. The first educative ideas are regarded as containing in a not wholly accurate form fundamental principles to shake which would be to destroy the mind's power of consistent apprehension.

And so, too (I would maintain), the results of historical criticism and of the physical sciences should

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be gradually superimposed on the basis of the existing religion, that religion being prior to these results, and the necessary displacements in its superstructure being gradual, and effected with due regard for the constitution of the human mind. For the faculty of religious belief (if such a metaphorical expression be lawful) may be lost, if its nature is disregarded and its laws are violated.

If this is generally true, even with those religions in which the fanciful element is large, and the ethical element far from perfect, still more true is it with any form of Christianity, in which the ethical element is so predominant and is in itself noble and pure. If, for example, Scripture is at one stage of mental development believed as literally true in all details, because it is the word of God, a wise upholder of the reconciliation of science and faith should not, on the principles I am upholding, make a clean sweep of such a belief, but, presupposing the belief and its fundamental truth, should distinguish that truth from its inaccurate interpretation or application. He should show that the human instruments of a divine message wrote with the culture of their time, which included ignorance or error in matters now explored by science and critical history, and that God's teaching is enshrined in documents in which that culture is inevitably to be found. That culture may include inaccuracy in secular science without prejudice to the fact of a Divine message.

(2) I claim for the Roman Catholic Church that in its general line of action it has practically, in the long run, adopted this *modus operandi* in its own life,

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and in the gradual development of its constitution as an ecclesiastical polity.

This will be more evident if we first note the change which the last fifty years have brought in the statement of the problem before us. Speaking roughly, it is this,—that fifty years ago the theologians were apt, in popular discussion, to present a large intellectual structure, dealing in point of fact with matters within the cognisance of physical science and history, as well as of theology proper. This structure had the prescriptive right of possession, as comprising the “orthodox” theological position. The orthodoxy of new hypotheses, in science or history, was tested by their consistency with it. Thus geologists were adjudged heterodox if they differed from the traditional view (long inferred from the Bible) as to the antiquity of man; evolutionists were condemned because they differed from the generally received account of a series of special creations, and so forth. The *modus agendi* applied in the Galileo case was still in force, and theories were condemned on the ground that they contradicted the generally accepted view as to what Scripture vouched for.

This method now no longer prevails even in popular discussion. Scientific and critical research has, at all events, shown beyond question that much of the traditional “theological” structure will not stand. The antiquity of man, once deduced from Scripture, is no more regarded as necessary to orthodoxy than the Ptolemaic interpretation of the book of Joshua. But to the agnostic tendency, to which this demon-

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stration at first led, has succeeded the view that the structure of the current "theology" (using the word in the large sense above indicated) is one the strength and importance of whose parts are very various; that the dilemma of all or none was false; that the agnostic conclusion was as unproven as the ultra-conservative assumption had been unwarranted; that the "theological" structure was the outcome of the development of Christian thought in prescientific days, including many overgrowths as well as the growing vital parts; that there is no short cut to the essence of Christianity; that man cannot adequately isolate, comprehend, or define the divine truth presented by dogmatic propositions; but that a truer (though never an exact) representation of the truths committed to the guardianship of theology, as embodied in an intellectual setting which takes account of modern science, will be obtained by the process of mutual correction in which the body of scientific and critical speculation — largely coloured as it is by the anti-Christian bias so often influencing its framers — engages in reciprocal criticism with the "theology" in possession, which is at present mingled with prescientific and inaccurate conjecture. Any large or free presentation of the scientific and critical outlook will include much over and above ascertained fact, just as the prescientific statement of "theology" involved inaccurate overgrowths in matters which have only in later times been sifted by scientific investigation and historical criticism. A certain antagonism then between the representatives of science and of theology, an atti-

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tude of mutual criticism, would seem to be the indispensable preparation for any satisfactory assimilation. Only thus shall we approach that elimination of unproved excesses on either side which, so long as they stand, make the two systems, of science and "theology," irreconcilable.

I maintain that this process of antagonism and subsequent partial assimilation between the conclusions of the human reason, freely energising, and the current presentment of the truths of faith, which we now see to be essential to theological precision in view of the advance of human thought and of secular knowledge, has in fact been unconsciously taking place from the first in the Catholic Church in the development of its "theology." Such a contention does not exclude the possibility of injustice and excess on the part of individuals in authority in their initial antagonism to the novelties advanced in the name of "reason;" nor does it involve a subsequent assimilation which is either rapid or complete. But although the results visibly attained may be only approximate, we may see in the representation within the Church of all the interests concerned, and their mutual interaction, the Providential means of at once preserving the essence of revelation and admitting the obviously just demands of advancing human thought.

And as the story of organic development is said to be, broadly speaking, similar to the story of the growing *fœtus*, so the history of the Church would seem to mark out the philosophy of her action in respect of her individual members. The story of the Church to which the faith was committed at Pentecost, and to

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whose members science and philosophy have gradually imparted new successive phases of secular culture, — from the days of the Alexandrian School to those of the Aristotelian *renaissance* of the thirteenth century, — is broadly similar to the story of the growing youth. The Church has followed the path of Nature. It received a revelation at the outset, — a moral ideal, together with sanctions and beliefs which gave men the power of translating it into action. On that revelation its members, from an early period, made speculations, and from it they made deductions, both speculations and deductions including a large element of the fanciful. They have gradually been pruned within the Church in accordance with the lessons taught by the advance of the human intellect in accuracy of reasoning; yet the operation of pruning has been done with great caution lest Divine Truth should be mutilated in the process of cutting off superstitious accretions. The well-known instance of the early Gnostic controversy was, as it were, a rehearsal for this mode of action so often repeated within the Christian Church. She rehearsed in that instance, in relation to philosophical speculation, the course which she must now inevitably take in relation to the positive sciences. The Hellenism of the Gnostics was, in spite of its elements of genuine philosophical speculation, largely an indulgence in fancy. And it involved the rejection of the Old Testament, — an essential element in the groundwork of Christian development. It was opposed by St. Irenaeus on behalf of the Church, and his ever-memorable passage on the vanity of human speculation on mat-

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ters of which we can know nothing, may be regarded as a motto representing the wisdom of the Christian philosophy of Faith. But while the "acute secularising" of Christianity and its sudden Hellenising, to use Harnack's phrases, was opposed by the Church, the assimilative genius of Catholicism became gradually apparent in this very matter. Harnack has not hesitated to say that in Catholic theology, as subsequently developed, "Gnosticism obtained half a victory,"¹ in so far, he explains, as Gnosticism was Hellenism. Cardinal Newman, as I have elsewhere pointed out, takes a very similar view of this episode in Christian history. The condition was that the assimilation was *gradual* and critical. The Gnostic rejection of the Old Testament, the very basis of Christian development, was set aside; the more fanciful theories were rejected. The essential genius of Catholicism and the essence of the revelation were preserved. Given this condition, the gradual adoption of the Hellenic superstructure in its explication was admissible.

The combination of exclusiveness, whereby the essential principles and beliefs of the primitive revelation were preserved, and assimilative power whereby, once this was assured, the more serious achievements of the human reason and the more important factors of a newer culture could be admitted, has, then, I would maintain, characterised the Church from the first days of her intellectual life. She began as a child. The revelation was imparted to uneducated fishermen. Deep truths of vital importance to all, cultured and uncultured, were given her once for all,

¹ See Harnack's *History of Dogma*, I. 227.

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at a stage prior to that at which the Christian philosophical schools came into existence. The infantine fancies or boyish speculations which arose had to be gradually eliminated, and to give place to the grave philosophy and fuller knowledge of fact contributed by the great Christian thinkers and the serious exponents of secular science. The division of parts in the polity which was gradually evolved,—a division which is now so acutely needed when the world known to history and to science is found to be susceptible of a knowledge so much more wide and accurate than was once imagined to be possible,—was visible already in the early centuries;—the division (I mean) between the representatives of the devotional life, and the representatives of research, reflection, and speculation on the intellectual basis of that life. And the Ruling Power which the Church, as a world-wide society, needed, embodied also the third element in its constitution, namely, the official and divinely appointed guardians of the *depositum fidei*, whose work it was to protect and supervise both interests,—to preserve the faith on which devotion rested, to resist the encroachments of the speculative intellect, and yet not to bar out assured intellectual truth, which it behooved the Society to assimilate, lest Christianity should be identified with superstition and become inaccessible to the educated.

(3) All this may appear to be highly theoretical. The Church of Rome, it may be urged, has been historically the foe to science and to freedom of intellect. In proportion as the distinctive features of "Romanism" have become clearly differentiated in

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course of Church history, the intolerant and persecuting spirit has increased. The Roman authorities have ever been notorious for condemnation — when have they done anything in the direction of assimilation? Even admitting what has been said as a theory, how can it be regarded as true to fact?

To this I reply,

(a) That just as a contest or rivalry, physical, political, financial, between a man of principle and a man without principle, is often an unequal one, — for the latter may in a hundred ways hit below the belt, — so there is a sense in which the Church must be, not indeed a foe to, but a drag on, scientific advance. The man without a conscience has simply to think of the best road to success. The other must ask at every step, "Is this lawful?" The Church has other duties apart from the promotion of the secular sciences, — duties which may in some degree come athwart the immediate interests of these sciences. To preserve truth as a whole may mean to arrest for a time a one-sided development. Science may, therefore, move faster outside the Church than within it.

(b) It is quite true that authority acts normally, not by way of active assimilation, but mainly by way of opposition, to new developments of the reason because Authority is the guardian of the deposit of faith that is handed down, and it guards it, in the first instance, in the traditional form, opposing novelty until it is quite clear that the modification of its form does not mean real mutilation of its essence. Authority opposes the entrance of a new phase of intellectual expression until such a new phase is

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shown to be without danger to the faith. It is the representatives of the intellectual force in the Church, and not those of official authority, who normally initiate the work of assimilation. Authority tests it, and may in doing so seem to oppose it. She plays, so far as scientific proof is concerned, the part taken by the "Devil's advocate," in the process of canonisation. She is jealous of disturbing changes in the human *medium* by which faith in the unseen is habitually preserved *hic et nunc*; science is placed by her on the defensive; excesses and fanciful theories are gradually driven out of court; a truer and more exact assimilation of assured results in science and in theology is thus obtained by the thinkers; then, and not until then, Authority accepts such results passively. She is the guardian, not of the truths of science, but of the things of the spirit. It is not for her to initiate inquiries beyond her special province.

This division of parts was visible in the great theological transformation of the thirteenth century. It was not Ecclesiastical Authority, but the great University Professors — Albertus Magnus, Thomas Aquinas, and their peers — who accomplished the work of assimilating Christian Theology to the philosophical culture of the Aristotelian Renaissance. Authority successively opposed, tolerated, and approved their labours, as those labours gradually Christianised the "new learning" of the thirteenth century. Our present need is a body of specialists and theologians of insight, who will do a similar work for the critical and historical sciences of the twentieth century.

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(c) It is, then, not as being the best road, having regard solely to the interests of present scientific activity, that I advocate the "approach" to the desired synthesis (to use the phrase in the Editor's Preface) through the Church of Rome, but as being the road whereby the security of *both* interests can be best defended. Assuming that Christianity was a revelation of spiritual truth, the interests of truth as a whole are best guarded by an institution which does act to some extent as a drag on the freest adoption of speculations advanced in the name of science and criticism. An absolutely free admission, broadcast, among all minds, of the most various calibre, of the highly speculative theories of (more especially) modern biblical critics,—theories inspired often by anti-Christian prejudice,—need not be prejudicial to secular science itself. It may even contribute to scientific truth from the gems mixed with the rubbish. But it may be opposed to the interests of truth, as a whole, *hic et nunc*. It may destroy religious faith in the many. The imagination becomes overpowered by the kaleidoscope of irresponsible speculation. The faculty whereby religious truth is grasped is confused by the overcrowding of the mind. Its grasp is relaxed. Faith may be killed never to return, and lost like some traditional secret in art or in painting,—as the tradition of the old Gregorian singing is said to have been lost.

Hence the suspiciousness on the part of the guardians of dogma of any novelty which affects the statement or exposition of dogma. It is no question

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of hostility to science as such, but of the jealous guardianship of the "deposit." This is no fancy or theory. The jealousy of which I speak may bring out exhibitions of the persecuting temper in individuals; it may be mixed up with party feelings or personal antipathies; it may take the form of obscurantism: but no one acquainted with Rome can deny that there is in the appointed rulers this deep traditional sense that it is their business to guard the "deposit," and that to fail in this is the one great crime compared to which injustice to secular science is a small matter,—for it is to fail in the principal duty of their office. This may sound not an entirely promising defence of Rome as the "approach" to a synthesis between religion and science. But I regard the method I have sketched as essential if both elements are to be preserved. The trend of the modern movement is at present inevitably, at least indirectly, anti-religious. The wonders of Christianity, the new birth of the moral world which we owe to it, have become an old story. They cease to inspire and hold men as they once did. It is science which now brings the charm of new worlds of discovery. A scientific synthesis of the Universe which forgets religion is the real danger.

The greater the intellectual displacements which are seen to be inevitable, the more essential is it that a living organism should preserve that supernatural truth which is not, strictly speaking, intellectual, and of which a merely intellectual recasting of knowledge may take no more account than a complete record of the anatomical analysis of the human body takes

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account of the soul. A representative body which professes, through good and evil repute, to hold fast to the Christian message, to assert it, to defend it to the death, is essential if Christianity is to last in any true sense in the modern world of ever-changing intellectual theories, amid the irregular and uncertain advances towards scientific conclusions, through fanciful and delusive speculation. Such a body does not directly aid science in its own domain. That is not its object or its business. But it does preserve one of the elements in the desired synthesis, which without such a body to fight its battles would gradually dwindle to nothing and lose its influence. The new points of view suggested by men of science are doubtless accepted outside the Roman Communion more readily than within. But is that to say that they are assimilated in them by Christianity? I doubt it. The scientific synthesis may assimilate elements of Christianity elsewhere. But if Christianity is to assimilate what is true in science, without itself becoming utterly diluted and losing its distinctive genius amid the inevitable intellectual changes, I see no other machinery which will, in the long run, accomplish this work, except the organic co-operation of defenders of the various truths and interests concerned, the machinery for which is to be found in the constitution of the Catholic Church.

The specially rigid attitude, then, of modern Rome may be regarded, roughly, as the response and retort, of a living vigorous power representing Christianity, which assumes a definite policy to counteract a policy on the part of what may be called the modern *move-*

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ment, which is irreligious as well as scientific. The *desideratum* at present is not to dethrone that power represented by the Church, but, as I have already suggested, to cultivate vigorous thought and wide learning within the Church and among all Christian thinkers, lest a necessary practical policy on the part of the Church should tend to become identified with intellectual *intransigeance* and sheer opposition to the interests of truth in certain departments. The results of the scientific movement, as they come to us from the hands of opponents of Christianity, the Church cannot accept. They are not pure science. What is advanced as science is in reality often subtly coloured by the prepossessions of its advocates. Only learning and thought among Christians themselves, fairly equal in extent and quality to those of their opponents, can afford the means for the desired synthesis. Until these are found, faith may be inevitably allied within the Church with a secular science which is not fully alive to the problems of the moment. The Church which has the patience to wait for these indispensable allies does not afford, necessarily, the *quickest* "approach" to an acceptance of the modern scientific outlook; but she may prove to afford the only machinery whereby the desired *synthesis* may be attained,—whereby Christianity can be preserved undiluted, until Christian thought has accomplished the task of finding the necessary *modus vivendi* and rescuing science proper from the hands of those assailants of Christianity whose jugglery presents the results of their own anti-Christian prepossessions as an integral part of scientific achievement.

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And here I terminate my suggestions; for the actual problems, placed by modern science and scientific criticism before the thinking world of Christians, do not differ very considerably for the Roman Catholic and for adherents of the various shades of Protestantism. My purpose here has been to show that the religious approach being the natural preliminary to the consideration of scientific criticism, the constitution of the Catholic Church, and even its *modus agendi* in the past, are well adapted to the situation. The constituent forces concerned in the development of its theology exhibit its claim as the guardian of belief in the divine revelation,—a belief so constantly assailed, so easily destroyed for individual minds in the confusing Babel of modern speculation,—while providing for such assimilation of serious thought and science as is consistent with the security of Christian faith in the weak and impressionable mind of man. Whether this assimilation has always been within the Church as rapid as it might be consistently with the sacred interests to which I refer, is another question. But on the assumption that Christianity is all it professes to be, such a deflection from the perfect *via media*, as excessive jealousy for Christian tradition implies, would seem to be a less serious charge than that of over-great hastiness in reconstruction.

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